Review of Health and Nutrition Project Baseline Research Methods of Title II Funded PVOs

Prepared for Food Aid Management
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Abbreviations

CS	Child Survival
CA	Cooperating Agency
CDIE	Center for Development Information and Evaluation
CORE	Child Survival Collaborations and Resources Group
DAP	Development Activity Proposal
DEC	Development Education Clearinghouse
DHS	Demographic and Health Survey
FAM	Food Aid Management
FANTA	Food Security and Nutrition Monitoring Project
FFP	Food for Peace
FFQ	Food Frequency Questionnaire
FHI	Food for the Hungry International
EPI	Expanded Program of Immunization
FSRC	(FAM) Food Security Resource Center
GMP	Growth Monitoring and Promotion
IMCI	Integrated Management of Childhood Illnesses
KPC	Knowledge Practices and Coverage Survey
LQAS	Lot Quality Assurance Survey
MCHN	Maternal and Child Health and Nutrition
M&E	Monitoring and Evaluation
MICAH	Micronutrients and Health
MICS	Multiple Indicator Cluster Survey
MOH	Ministry of Health
PM&E	Performance Monitoring and Evaluation
PAA	Previously Approved Activity
PRA	Participatory rapid appraisal
PVC	Private and Voluntary Cooperation
PVO	Private Voluntary Organization
RAP	Rapid Appraisal Procedures
RRA	Rapid rural appraisal
PRA	Participatory rapid appraisal
SCF	Save the Children Fund
SOW	Scope of Work
UNICEF	United Nations International Children's Fund
USAID	United States Agency for International Development
VAD	Vitamin A Deficiency
WHO	World Health Organization

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1. Introduction

1.1. Objective of Review

The majority of Food Aid Management (FAM) member Private Voluntary Organizations (PVOs)[1] have placed a high priority on access to quality baseline survey tools for Title II projects. Health and nutrition (HN) was identified by the FAM Monitoring and Evaluation Working Group as one of the sectors having greatest need for guidance in the selection and use of baseline and evaluation methods. This report is a review of: 1) methods and tools available to conduct baseline surveys and evaluations in Title II Maternal and Child Health and Nutrition (MCHN) development programs, and 2) how those methods and tools can be used in various settings. In the long run, this review is intended to be part of a FAM toolkit of robust tools and techniques that Title II PVOs can use to monitor and evaluate their programs in all sectors.

The emphasis in this report is on the application of baseline[2] methods and principles that are appropriate for Title II MCHN programs. Survey tools and methods containing questionnaires and guides that can be easily obtained, for which support is available, and which are feasible to implement within the resource constraints PVOs normally face are discussed. Methods for supplementing baseline data, including rapid appraisal techniques and other qualitative methods, are also synopsized. For all of the tools and methods reviewed, contact information and internet site addresses are provided.

To inform this report with a broad representation of PVO field experience, baseline reports and supporting program documents were reviewed and assessed. The reader should note that this exercise was not intended to evaluate the approaches PVOs have taken in their evaluations, but rather to characterize Title II MCHN program assessment practices generally and identify areas that are successful as well as those that need strengthening. Recommendations for applying program-appropriate methods and improving aspects of baseline research are included in the final section of the report.

1.2. Approach

The scope of work (SOW) for the review of HN tools is included in Appendix 1. Briefly, the task was two-fold:

- To conduct a literature review and develop an annotated bibliography of current techniques or methods/tools that are available for use in HN baseline surveys or evaluations – including quantitative and qualitative methods – selecting those which could be easily adapted to Title II MCHN programs; and

- To survey PVOs to determine what methods and tools they use in their MCHN baseline surveys or evaluations, identifying both the strengths and limitations associated with the use of those methods or tools. In addition, to determine what needs or gaps the PVOs identify in finding and selecting the correct method or tool to evaluate their MCHN programs.

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[1] For the purposes of this report, the non-profit organizations implementing Title II projects are referred to as PVOs. In USAID Title II documentation, these PVOs are also referred to as Cooperating Sponsors (CSs). To avoid confusion with the term "child survival" (CS) , PVO is used in this report to refer to cooperating sponsors.

[2] Survey instruments used by Title II PVOs for baseline studies are often the same instruments used for final (or other follow-up) evaluations. Questions may be modified, added, or deleted, but more often than not the instrument and sampling approach remain the same, in order to ensure comparability between the two surveys. Therefore, in this report the discussion of "baseline" survey methods is assumed to apply to final (or other follow-up) evaluation survey methods. Routine monitoring, pre- and post-baseline rapid assessments, and most mid term evaluations, generally apply more qualitative approaches, and are duly distinguished.

The overall approach taken to respond to this SOW consisted of 4 main steps:

1) Available USAID-related monitoring and evaluation (M&E) resources were reviewed;
2) Title II MCHN project documents were reviewed and assessed;
3) Staff and consultants of Title II PVOs were consulted; and
4) Specific baseline and evaluation methods and tools developed by cooperating agencies (CAs), international agencies, or PVOs themselves were reviewed and assessed.

This section describes the specific activities within each of these four steps.

First, monitoring and evaluation resources generally relevant to Title II MCHN were reviewed. These include publications of USAID, FAM, CAs, international agencies and PVOs. USAID's primary resources include the Center for Development Information and Evaluation (CDIE), the Development Experience Clearinghouse (DEC), the Bureau for Humanitarian Response Offices of Food for Peace (FFP) and Private and Voluntary Cooperation (PVC). The vast majority of these resources were, fortunately, internet-based, and a list of the most useful web sites visited is included in Appendix 2.

In order to appreciate the range of HN program types, intervention objectives and baseline methods used by Title II PVOs, it was necessary to select a manageable list of PVO project documents for review. The Food and Nutrition Technical Assistance Project (FANTA) provided a list of FFP Development Programs FY 1999 approved programs (as of 5/6/99) as a starting point. From this list, projects that had approximately 40 percent or more of their value in HN were selected. This produced a list of 18 projects, including 10 in Africa, 1 in Asia, 7 in Latin America/Caribbean region. As this list was only a starting point, as the document search got underway other projects were suggested and added in an effort to achieve a reasonable cross section of PVOs, countries, and unique approaches.

For all of the projects selected, an attempt was made to find DAPs, DAP Amendments, results reports, and baseline survey reports. The FANTA library and FAM Food Security Resource Center (FSRC) were invaluable sources and provided the bulk of available documents. It was more difficult to obtain documents directly from PVOs, since key staff was often out of the office, or project documents were not centrally housed. In general, DAPs were widely available, followed by DAP amendments and PAAs, and results reports. Baseline and evaluation reports were the most difficult to locate, or were occasionally available but not in English. The actual number of baseline surveys that could be obtained for review was therefore limited to 8. For some programs baseline reports were not available but mid-term reports were, and information about methods used in the baseline could be gleaned. Table 1 on the next page contains a listing of all the project documents that were available for review. Click here to view Table 1.

Although some projects had a full set of documents available for review, unique experiences, circumstances, and the best lessons learned are often not captured in the written reports. For this reason, information was also gathered through in-person, telephone and email correspondence with PVO staff, consultants, and representatives of CAs. This communication provided informal, often anecdotal, insights into special project needs and challenges. Appendix 3 contains an email sent to members of the FAM M&E working group[3], questions sent by email to PVO field representatives, and a question guide used for U.S. based PVO staff and consultants. The list of people contacted is included in Appendix 4.

[3] This email was sent only to members whose PVO had a Title II MCHN project.

TABLE 1. Title II PVO Documents Available for Review

Click here to go back to the text.

PVO	Country/Dates	DAP/DPP	DAP Amend.	PAAs/RRs	Baseline Survey	Mid-Term Evaluation	Final Evaluation	Other
ADRA	Peru '96-00(01)		X			X		
Africare	Burkina Faso '99-03	X						
	Chad '97-01	X		X	X			
	Guinea-Conakry '96-00	X		X	X		X	
	Mali '97-01	X		X	X			
	Mozambique '97-01	X				X		
CARE	Bolivia '99-01	X			X*			
	Guatemala '96-00	X		X				
	Honduras '96-01	X			X*	X*		
	India '96-01	X				X		X
CRS	Benin '96-00	X		X			X	
	Gambia '98-00	X		X				X
	Kenya '96-00	X						
	Madagascar '96-99				X	X		
Doulos Community	Mauritania '96-00	X		X				X
FHI	Kenya '98-02	X		X	X			
PRISMA	Peru '96-00		X					
SCF	Ethiopia '98-02	X			X			
World Share	Guatemala '96-00	X		X				
TOTAL		17	2	9	8	5	2	3

* Available in Spanish only

Finally, a selection of published survey and assessment tools was reviewed and assessed. This selection includes only tools and techniques directly applicable to Title II MCHN projects. The assessment focuses on the purposes of the tool/technique, strengths, limitations, and inclusion of relevant indicators. Contact information and Brief discussions of some survey resources that focus in specialized areas of relevance to Title II MCHN (e.g. anthropometry or vitamin A consumption) are also included. Although all PVOs use a quantitative instrument to gather baseline estimates, many also use qualitative tools, either before the baseline, to inform the DAP, or after the baseline, to fine tune behavior change strategies or to conduct mid-term assessments. Summaries of these tools are also included.

2. Review of Performance Monitoring and Evaluation

A discussion of baseline survey methods is not complete without placing it in the broader context of performance monitoring and evaluation. USAID's emphasis on **managing for results** requires that its cooperating sponsors – Title II PVOs – clearly identify "objectives, intermediate results, and measurable performance indicators in order to demonstrate sustainable impact of the Title II activity on food security" (USAID, DAP Guidelines, 2000). For PVOs, this **results framework** provides a management strategy for implementing activities, monitoring progress, making management decisions about the program, assessing and reporting on progress and impact, and planning for the future. For USAID, the results framework is needed for planning, managing, reporting, and allocating resources.

2.1. Elements of a Performance Monitoring Plan

In order to operate effectively within the results framework and be able to monitor how well or poorly a program is progressing with respect to the results it is expected to achieve, program managers need to have a good **performance monitoring and evaluation (PME) plan**. This is a plan for collection, analysis and use of performance information. Performance information can be quantitative or qualitative, systematic or anecdotal, and can be derived from primary data (i.e. data collected specifically within the context of the program itself), secondary data (i.e. data collected by another source for some other purpose), or both (USAID, PME, 1998).

In general, **performance information** is needed for three purposes:

- accounting and reporting,
- project management, and
- program planning

A small set of key indicators usually cuts across these three objectives, but beyond these the data required to meet each of the three objectives frequently differ. Program managers need to discern whether the data needs for each objective are best met through:

- baseline or evaluation studies,
- an ongoing monitoring system,
- less formal (e.g. qualitative) assessments, or
- some combination of the above

A good PME plan includes clearly and consistently defined program objectives and performance indicators. The following points should be kept in mind when developing the PME:

- ✓ Objectives can be at the *output level* (e.g. number of community health workers trained in growth monitoring/promotion (GMP)), *outcome level* (e.g. community health workers capable of conducting GMP), or *results level* (e.g. change in nutritional status of target children).
- ✓ Results describe the *long-term impact* on a target population, while outcomes describe the *immediate effects* on the population.
- ✓ Performance indicators should be detailed, precise, and have clear numerators and denominators.

When objectives and indicators change mid-stream, the effectiveness of monitoring and evaluation efforts is greatly reduced, and it is much more difficult to assess progress and achievements. One of the great challenges for Title II programs is to seek strategies to reduce the extent to which objectives and indicators change during the life of the project.

2.2. Function of the Baseline Survey in the Performance Monitoring and Evaluation Plan

The baseline survey is a fundamental component of the PME plan and usually is the first primary data collection activity. The baseline survey is used to focus the program on the community's priority needs, help the program design effective strategies to deliver MCHN services and support existing MCHN activities, and set measurable objectives. Baseline assessments should collect information for all major planned activities so that progress over time may be measured. Data from the baseline survey provide **benchmarks** against which progress, impact and effectiveness of the program can be measured.

Types of data typically collected in the baseline survey include:

- socio-demographic characteristics of the population;
- knowledge, opinions and practices of community members with regard to the targeted behaviors;
- quality, coverage, and needs of existing health facility/worker services;
- measures of local capacity and sustainability

Quantitative survey methods are normally the most appropriate for collection of baseline measures. Title II PVOs most often use the Knowledge, Practice, and Coverage (KPC) Survey (reviewed in section 4.1) to collect quantitative data, although this is not required. Quantitative baseline data can be complemented with information from qualitative (or "ethnographic") inquiries, and PVOs use a variety of qualitative methods (reviewed in section 5) for such purposes.

Program objectives, intermediate results, and indicators need to be clearly defined *before* the baseline survey is designed. If they are not, the survey will not provide the benchmarks needed for assessing project performance. Well defined objectives and performance targets enable managers to design efficient baseline survey instruments that will provide information that can help shape specific intervention approaches, set realistic annual targets, and provide a structure for an ongoing monitoring and evaluation system.

2.3. USAID Reporting Requirements and Guidelines

Baseline data and information from the broader PME plan not only help the PVO manager plan, manage and assess program progress, but also provide USAID information it needs to meet its reporting requirements. Performance indicator data from the PVOs tell USAID whether programs are on track in achieving strategic objectives and intermediate results. As Patricia Bonnard noted in her review of Title II agricultural project baseline survey methods: "…the data collected also serve as inputs to USAID's results reports and medium- to long-term program development as well as congressional releases, testimonies, and speeches. USAID, therefore, has a strategic interest in assuring that PVOs furnish relevant and reliable information. In countries or regions where there are more than one DAP with similar activities, consistent monitoring across DAPs assists in the compilation of USAID performance records" (Bonnard, 1998).

The DAP Guidelines published by FFP provide clear directions for articulating program objectives and impacts, and for reporting performance data:

> *"Two types of performance indicators should be identified in the DAP – impact indicators and annual monitoring indicators…. The CS should quantify in the DAP the current level of each impact indicator, if possible, with primary data (baseline) for the population of interest, or with secondary data that provide a reasonable estimate of the current situation" (USAID, DAP Guidelines, 2000).*

The Guidelines also outline the requirements for annual reports, mid-term and final evaluations. Strategies for achieving economies of scale through joint monitoring and evaluation approaches, and integration and coordination with partners are encouraged. Criteria for selection of indicators as well as a list of Title II Generic Indicators are provided.

In addition to the DAP Guidelines, PVOs can request from FFP an information packet containing reference materials on monitoring and evaluation and program reporting. USAID publishes several other resources to help PVO partners build results frameworks, develop performance monitoring and evaluation plans, and select performance targets that are focused, feasible, and appropriate for the intervention.

Two highly recommended USAID resources are listed below:

USAID, Center for Development Information and Evaluation. *Performance Monitoring and Evaluation TIPS*. Washington [http://www.dec.org/usaid_eval/].

USAID. *Results-Oriented Assistance: a USAID Sourcebook*. [http://ww.usaid.gov/pubs/sourcebook/usgov/].

Further references for monitoring and evaluation guidance can be found in PVC's *PVO Child Survival Grants Program Technical Reference Materials, December 1999* [http://www.usaid.gov/hum_response/pvc/child.html].

3. Baseline Surveys in Title II Health and Nutrition Programs

3.1. Title II Health and Nutrition Intervention Areas

Title II development funding gives priority to activities that improve household nutrition and agricultural productivity. In 1999, 41% of Title II development funding was dedicated to health and nutrition. Projects in health and nutrition, and agriculture, are supported by 80% of commodities programmed through Title II (USAID, 2000).

Title II PVOs implement a variety of MCHN programs in Africa, Latin America/Caribbean, and Asia. These programs target population groups most at risk for poor health malnutrition, and death, i.e. pregnant and lactating women and children under 5 years of age. Activities focus on strategies proven to improve **child survival** (CS), including: promotion of breast-feeding, complementary infant and young child feeding, GMP, immunization, micronutrient consumption or supplementation, diarrheal disease control, pneumonia case management, maternal and newborn care, child spacing, and water and sanitation. A few programs focus on prevention of other infectious diseases that have an impact on child mortality. Child spacing and family planning efforts also target women and men of reproductive age (15-49 years).

Frequently Title II MCHN programs are coordinated with Mission or PVC funded CS programs for added coverage and efficiency. In many sites the MCHN program is coupled with an agricultural component, providing opportunities to address food insecurity from both a health and a food-based approach.

3.2. Observations on PVO Baseline Survey Methods and Reporting

Research Conducted Prior to Baseline

All Title II projects are required to provide baseline information about the health and nutrition situation of the intervention area, either as part of their DAP submission or shortly thereafter. In some cases, a DAP represents an extension of an existing program – which may or may not have been funded by Title II – and a baseline study has already been conducted and can be used in the DAP. However, for most

programs, the DAP reflects the PVO's plan to conduct baseline research after the project has been approved and has commenced. Nonetheless many PVOS conduct a **situation analysis** or other **rapid appraisal** activity before they write their DAPs, which serves two purposes: 1) for the DAP, it provides content information on recent general conditions and problems associated with food security, nutrition and health, and 2) once the project begins, the rapid appraisal findings provide direction for the design a well-focused baseline questionnaire. The document review for the present report suggests that programs in which the baseline survey has been preceded by a rapid appraisal or situation analysis are likely to have more focused baseline survey goals, approaches, and instruments, and spend less time conducting the baseline research.

Baseline Survey Methods

The approach to baseline (and follow-up) evaluation research varies widely among Title II PVOs, depending on the mix of interventions and program focus. The vast majority of baseline studies consist of two surveys, the KPC (or KPC-like) survey, and an anthropometric survey of children. This is, in very general terms, the standard research approach, but there are quite a few variations. Save the Children Ethiopia, for example, used two questionnaires, one for health and one for food security and nutrition. Africare, in Guinea-Conakry, used four instruments, i.e. a KPC, an anthropometric data collection instrument, a "food frequency and diversity exercise", and a semi-structured interview guide.

The KPC survey tool – reviewed at length in section 4.1 – is used to collect baseline performance indicator estimates. The tool, or questionnaire, is administered to approximately 300 mothers of children 0-23 months from 30 randomly selected clusters of 10 households each. (This sampling technique is called the 30-cluster sampling method, and is also described in greater detail in section 4.1.). Mothers are asked a series of questions about their knowledge and practices with regard to breastfeeding, complementary feeding, diarrhea case management, pneumonia case management, immunization, and micronutrients. The questionnaire takes less than an hour to complete. PVOs, being very comfortable with this tool, have developed a number of unique modifications of the questionnaire to fit specific project needs. These are discussed below.

The most common modification of the KPC is the addition of extra questions. This is done in an effort to tailor the questionnaire more specifically to the intervention goals and pre-defined performance objectives. However, among some of the longer KPC questionnaires reviewed, many of the extra questions are about values, perceptions, beliefs, and motivations - either of the mother herself or of community and family members around her. They are not performance indicator related, but are intended to obtain information that may be useful for the *design* of behavior change messages. Most of these questions did not lend themselves to categorization/coding, and yielded results that were difficult to interpret.

In a few cases, extra questions were added to the KPC because the upper age range of children was increased from the standard 23 months[4], and different questions are applicable to older children. While this is not a typical modification, in reports where it was noted the explanation/rationale for the age expansion was not provided. In one or more projects reviewed the age range of the children included in the KPC was not mentioned.

Another common KPC modification is to increase the sample size from the standard 300. In fact, there are several situations in which increasing the sample is a warranted (and necessary) statistical modification (see section 4.1). In most of the reports reviewed wherein the sample size was increased,

[4] The KPC was originally developed for USAID/PVC Child Survival PVOs..Although child survival projects target children under the age of five, CS PVOs chose to focus the KPC on children under age two for two reasons: 1) among children age five, under twos experience the highest health risks; 2) budget and human resource constraints warrant limiting the age range of children to those under age two (KPC, 1999).

there was at least a general statement about why that was done, but the explanation was usually not specific enough, and the rationale for the magnitude of the increased sample size was missing. In some cases there was no explanation given at all for the sample size increase.

Perhaps the most common of all modifications of the KPC is the addition of extra questions about food – that is, about food beliefs, perceptions, and consumption patterns. PVOs need information about food beliefs, child feeding and consumption patterns (child and sometimes family) when programs include behavior change and education strategies to increase the diversity and nutritional value of food within the home. However, information about food beliefs, values, origins of diets, and so on, is difficult to capture through traditional (quantitative) research methods. Coding, quantifying and interpreting subjective information about food obtained from a KPC survey is usually unsuccessful. At best, the results are difficult to use.

Quality of Reporting of Baseline Research

The quality of reporting of baseline research varies greatly. At one end of the spectrum are baseline and assessment reports that are clear, concise and easy to read. At the other end are reports that are extremely difficult to follow. Below are summarized some of the significant issues observed with regard to the quality of survey reporting.

- Some baseline reports were highly readable without any need to refer to prior project documents. They contained brief (1 page or less) summary statements early in the report about the project's funding source, dates and length of existence, predecessor project (if applicable), main objectives, and main indicators of performance. However, in several baseline and mid-term reports reviewed, insufficient or confusing information was given about the background of the project. For these reports it was necessary to refer back to the DAP and/or a DAP amendment for basic facts, and even then they were not always clear. In one baseline report, the role of Title II funding and food was not mentioned until well into the middle of the report.

- In the majority of baseline situations, the number and type of performance indicators has not changed from the way they were presented in the DAP. However, in some cases where indicators have been added or deleted since the DAP was written, there are few if any explanations about how, when and why that happened.

- The easiest baseline reports to follow were those with well-labeled and titled tables and graphs. In a number of reports, however, labeling and titling of data was inconsistent and of poor quality. At times, this problem was compounded by a lack of information about what the graph/table represented, i.e. which question(s) in the KPC the data refer to.

- Many (not all) of the results obtained by KPC questions require interpretation. This is truer if a result comes from an "added" question. Results are presented in a number of reports without interpretation or discussion.

- In some reports (not all) no information is given about whether a result represents an impact or monitoring indicator (or any other kind of indicator).

- In general, higher quality reports tended to be shorter. Some reports are excessively long. Excessive length usually was correlated with poor formatting and difficulty to read.

Reporting of Anthropometric Survey Methods

Information on the nutritional status of children is an integral part of the Title II PVO baseline data. HN programs are required to report levels of stunting and underweight at baseline and as program

performance indicators. The data can be from secondary sources or be collected directly by the PVO. The collection of height and weight measurements of children, or the anthropometric survey, is probably the most time consuming and expensive component of baseline research, and it can be the most challenging.

Surprisingly, few baseline reports discuss the anthropometric survey experience. In general, PVOs tend to report only the results of the anthropometric survey, with little or no discussion on measurement techniques used, quality control procedures, equipment difficulties encountered, availability of field guides, training issues, logistical problems, availability and use of field guides, and so on.

In some of reports included in this review, it was stated that anthropometric measurements were taken on children aged 0-59 months, but results were not presented on the full age range of the children. Explanations for this were either missing or unclear.

3.3. Selection of Indicators for the Baseline Survey

For every HN intervention area several levels[5] of indicators (or indicator categories) can be considered for monitoring and evaluation of projects. The indicator levels used most often are shown in the box below.

Indicator Levels for Health and Nutrition Monitoring and Evaluation

- ***individual child/mother level indicators*** (e.g. percent of infants <6m. exclusively breastfed, percent of children fed continuously during illness, percent of children 12-23m. fully immunized, percent of malnourished children visited by CHW, percent of women who had at least two TT shots);
- ***community/village level indicators*** (e.g. number of village health committees formed, number of community revolving funds established, number of villages with trained health volunteers);
- ***facility level indicators*** (e.g. percent of health providers demonstrating appropriate nutrition counseling skills, percent of first level health workers trained in GMP, percentage of facilities with an IMCI trained clinician);
- ***district (or other administrative) level indicators*** (e.g. percentage of auxiliary nurse midwives trained in nutritional counseling, percentage of birth attendants trained)
- ***policy level indicators*** (e.g. number government nutrition entities formed, number of IEC campaigns initiated by government, number of nutrition policies developed)
- ***project management level indicators*** - (e.g. number of workshops for field extension workers held, number of collaborative activities held with partners, staff turnover rate, percentage of child weights taken accompanied by adequate counseling)

[5] The term “levels” in this section refers to categories of indicators, if indicators are thought of in a hierarchy, much like data can be disaggregated among individuals, communities, districts, etc. The term should not be confused with “impact” and “annual monitoring” levels described in the Title II DAP Guidelines.

Indicator levels other than those in the box can also be identified (e.g. media-level indicators, organizational-level indicators) but tend to be less common across projects. Identifying and deciding what levels of indicators to use (and, within each level, which specific indicators), depends upon the objectives and intermediate results defined by the project. Process indicators – being more numerous than impact indicators – are likely to be identified within every selected level.

For Title II MCHN programs, all of the indicator levels above may be appropriate, because programs are multi-level in scope. This is especially true in the current environment in which PVOs have moved significantly away from center-based distribution programs to community based development programs. Nevertheless, it is important to avoid choosing too many indicators. One way to do this is to develop selection criteria that can be applied to the long list of potential indicators that could be included.

The following criteria are offered:

- The number of performance indicators selected for the baseline study should be "manageable". Programs that identified between 12 and 15 performance indicators had, in general, more successful baseline surveys, judged in terms of the clarity of their results. Some programs identified up to 2 dozen or more performance indicators in their baseline studies, and these tended to be far more difficult studies to follow.

- Indicator data for baseline surveys should be directly related to the intervention, and be integral to assessment of objectives and intermediate results of that intervention. Among these will be the indicators that PVOs have committed to for performance reporting.

- Measurements of behavior, services, or knowledge that are not specifically related to the intervention should not be included in the baseline. For example, in a program that emphasizes breast- and complementary feeding, maternal nutrition during pregnancy, hygiene promotion, and GMP, measurements of malaria prevention behavior and immunization coverage are not needed. The program might, however, choose to collect information on diarrhea prevalence and use of ORT, since the latter are affected by hygiene practices (and diarrhea prevalence is probably at the level of intermediate program results). A common pitfall of some Title II MCHN baseline surveys is the collection of irrelevant indicator data.

- Indicator data should be collected on individuals targeted by the intervention, not on those *not specifically targeted* by the intervention. For example, in a nutrition education program, if young child feeding is the focus and if the sole targets of the education activities are mothers and community health workers/volunteers, it is not necessary to collect baseline information on husbands' child feeding knowledge and practices. This does not mean that husbands are not influential in their wives' beliefs and practices, but this information is *tangential* to the mainstream of the intervention. Such information may be obtained through focus groups or community meetings or other qualitative appraisals. The information may be used to help fine tune activities and approaches, and could later be used to explain outcomes, but it need not be included as part of the baseline assessment.[6]

- Indicators must be defined unambiguously. Both numerator and denominator definitions must be clear. For example, "percentage of women who initiated breastfeeding immediately after birth" is not clear without specifically defining what "immediately after" means (i.e. 1 hour

[6] The reader should not interpret this guidance to mean that information should only be collected on direct program beneficiaries. It is also necessary to collect population based measures, e.g. H/A data should be collected on children 2 to 5 years of age, even though they may not be the intervention's target population.

or 8 hours). A clearer indicator would be "percentage of women who initiated breastfeeding within 1 hour of birth". Similarly, "percentage of newly delivered women whose diet was restricted after birth", is ambiguous because the time period after birth for diet restriction is not specified.

- For every indicator (i.e. data point) included in the baseline, there should be a plan for its analysis and use. So, for example, in a program with maternal and newborn care, there is little sense in asking the mother if she received postnatal vitamin A supplements – even though we know postnatal vitamin A has proven benefits for the infant – if vitamin A supplementation is not widely practiced in the area and the project does not have a plan to introduce vitamin A. Similarly, in a site where GMP was already established, asking women about how long it takes them to walk to their center is probably unnecessary if there are no objectives related to improving access to centers, and no clear plan of how these data would be used. Information on distance and time to arrive could be obtained later, through other methods, if it was found to be important.

- Recall periods for indicators of child illness should be similar in the same baseline survey. That is, if a baseline survey is designed to obtain information on diarrhea prevalence, fever, and respiratory illness, the same retrospective period (e.g. one week, two weeks, 3 days) should be used. Consistency in illness recall periods lends itself to cleaner, more concise reporting.

3.4. Resources for Health and Nutrition Indicators

FFP Generic Indicators

FFP provides a generic list of HN indicators for Title II MCHN programs. PVOs are encouraged to use these indicators, although they are not mandatory. If the generic indicators are not used, DAP Guidelines require an explanation for excluding them and recommend that alternative indicators be identified. Most Title II PVOs use at least some of the generic indicators, although this varies widely by PVO and site. Some PVOs have developed their own "standard" list of HN indicators, such as Catholic Relief Services. Few PVOs limit themselves or adhere strictly to the generic list. On the contrary, the majority of projects identify a longer list, reflecting greater diversity in their intervention strategies.

Table 2 presents the FFP list of generic indicators. The table includes definitions of the indicators, denominators, numerators and whether the indicator is to be used for impact reporting or annual monitoring. The table is presented this way to illustrate the level of precision indicators need to have. Although USAID reports that "In FY 1999, three quarters of CS's approved proposals identified objectively-measurable program-linked performance indicators, as defined in BHR/FFP guidance", a number of PVO baseline studies reported indicators inconsistently, using inaccurate or ambiguous descriptions of the indicators themselves or their denominators and numerators. Click here to view Table 2.

The FANTA Project published a manual in December, 1997, entitled *Infant and Child Feeding Indicators Measurement Guide.* This guide is devoted to 5 indicators which were, at the time of its publication, the official Title II HN impact indicators for infant and child feeding. Since then, one of those indicators has been dropped (i.e. percent of infants <24 months offered additional food for 2 weeks after diarrhea). This brief guide is concise and user-friendly, and is recommended reading for all PVOs implementing Title II MCHN projects. This publication may be obtained through FANTA (website: www.fantaproject.org) or FAM (website: www.foodaid.org).

Table 2. Title II Generic Health and Nutrition Indicators

Click here to go back to the text.

Indicator	Denominator	Numerator	Indicator Level
Percentage of stunted children 24-59m (H/A z-score)	Total #children 24-59m with height measured[7]	Total #children 24-59m. with height measured and H/A z-score < –2 s.d.	Impact
Percentage of underweight children by age group (W/A z-score)	Total #children weighed[8]	Total #children weighed and with W/A z-score < -2s.d.	Impact
Percentage of infants breastfed within 8 hours of birth	Total #infants 0-23m breastfed[9]	Total #infants 0-23m breastfed within 8 hours of birth	Impact
Percentage of infants <6m breastfed only	Total #infants 0-5m.	Total #infants 0-5m. given breast milk only and no other liquids or solids in last 24hr	Impact
Percent of infants 6-10m. fed complementary foods	Total #infants 6- <10m.	Total #infants 6- <10m. given soft or mushy foods in addition to breast milk in last 24hr	Impact
Percentage of infants continuously fed during diarrhea	Total #infants[10] 0-23m. with diarrhea in last 2 weeks	Total #infants 0-23m with diarrhea in last 2 weeks who were offered breast milk and/or foods with same or greater frequency than usual	Impact
Percentage of eligible children in GMP	Total #eligible children [0-59m][11]	Total #eligible children [0-59m] enrolled in GMP	Annual monitoring
Percentage of children immunized for measles at 12 months	Total #children 12-59m	Total #children 12-59m who were immunized by 12 months of age[12]	Annual monitoring
Percentage of communities with functioning health organization	Total #communities covered in program	Total #communities covered in program that have functioning health committees/orgs	Annual monitoring
Percentage of children in GMP gaining weight in past 3m (by gender)	Total #children in GMP weighed in last 3m	Total #children in GMP weighed in last 3m who gained weight	Annual monitoring

[7] This indicator requires accurate age determination for the child.
[8] The age range of children is not specified in the Title II Generic List. This indicator should include all children under the age of 5years included in the growth monitoring program. This indicator also requires accurate age determination for the child.
[9] According to the FANta Infant and Child Feeding Indicators Measurement Guide, this indicator refers to children 0-23 months old, despite the use of the term “infant”.
[10] According to the FANta Infant and Child Feeding Indicators Measurement Guide, this indicator refers to children 0-23 months old, despite the use of the term “infant”.
[11] The age range varies, depending on target age range of intervention. Usually programs target children 0-59m.
[12] This indicator is often based on a denominator of children 12-23m, since older children may not be included in the GMP or may have dropped out.

Other MCHN Indicator Resources

The FFP list of generic indicators is only one of numerous resources available to Title II PVOs for identification of indicators applicable to their projects. In the MCHN sector, unlike the agriculture sector, a tremendous amount of effort has gone into defining indicators for almost every area of CS. In fact, the difficulty most PVOs face is not so much in coming up with appropriate indicators, but identifying and accessing key resources for indicator selection and use that are directly applicable to their programs. Therefore, in Table 3 a list of highly recommended resources for MCHN indicators for use in results frameworks is included. Click here to view Table 3.

4. Review of Available Health and Nutrition Survey Tools and Methods

A number of well-known survey instruments and techniques - both quantitative and qualitative - are available for use by Title II PVOs to conduct baseline and evaluation research. The most widely available and employed instrument is the *Knowledge, Practices and Coverage (KPC) Survey,* which is used primarily for baseline and final evaluations. In addition to the KPC, in order to obtain baseline information and estimates of impact on nutritional status of children, Title II PVOs frequently conduct anthropometric surveys and collect height and weight measurement data. This section reviews the KPC and other survey tools and research techniques appropriate for Title II MCHN programs. It also includes a discussion of tools and methods that are not appropriate *per se* to PVO baseline studies but have related value, that is, they may be used to help in survey design, indicator development, data analysis, or other aspects of baseline and evaluation research. It should be noted that the selection of tools reviewed is not exhaustive. PVOs are encouraged to browse the websites listed in Appendix 2 for more information on sources of survey methods applicable to specialized health topics.

4.1. KPC

In response to the need for a rapid, easy-to-use means of assessing progress in PVO CS projects, the KPC Survey was developed at the request of USAID about 10 years ago. Prior to the development of the KPC, indicators had not been well defined or applied, and data collection methods among PVOs varied widely. Consequently, it was extremely difficult to know if there had been measurable changes, either at the project or USAID program level. The KPC provided a concise, relatively inexpensive, reliable tool for the measurement of indicators to monitor and evaluate CS programs. The survey was administered to mothers of children under the age of two years[i] and contained about 2 dozen questions based on a core set of 17 indicators. Mothers were selected using a 30-cluster sampling methodology. Until 4 or 5 years ago, the KPC was a USAID requirement for all PVC funded CS baseline and final assessment surveys, and all 17 indicators had to be reported on, regardless of whether they were applicable to the specific interventions of the project. Although it is no longer a requirement, the majority of CS PVOs still use the KPC survey for their baseline and final assessments.

Table 3: List of Resources for Indicator Selection for Health and Nutrition Projects

Click here to go back to the text.

Title	Source/Address	Web Site/Email Address	Comments
Health and Family Planning Indicators: A Tool for Results Frameworks, Health and Human Resources Analysis for Africa, Africa Bureau, Office of Sustainable Development, USAID, 1999	SARA Project, AED 1815 Connecticut Ave. Washington, D.C. 20009 Tel. 202-884-8700 Fax. 202-884-8701	www.usaid.gov/regions/afr/hhraa/ Email: sara@aed.org	A second volume called *health and Family Planning Indicators: Measuring Sustainability,* is also available. Less applicable to community-based projects.
Tool Kit for Monitoring and Evaluating Breastfeeding Practices and Programs, Wellstart International, 1996	Wellstart International 4062 First Avenue San Diego, CA 92103-2045 Tel: (619) 295-5192 Fax: (619) 294-7787	Email: inquiry@wellstart.org	
MICAH Guide: A Practical Handbook for Micronutrient and Health Programmes World Vision Canada.. Part I: Indicator``s to Monitor Impact of Nutrition Programmes, World Vision, Canada, 1997	Nutrition Team World Vision Canada 6630 Turner Valley Road Mississauga, ON LN 2S4 Canada Tel. 905-821-3033 (x3232)	Email: kristen_hamilton@worldvision.ca	Part II of the MICAH Guide is "Design and Implementation of Nutrition Surveys". This document focuses on designing and implementing a nutrition survey, and is also recommended
Monitoring Progress Toward the Goals of the World Summit for Children, End-Decade MICS Manual, Division of Evaluation, Policy and Planning, UNICEF, 2000	Division of Evaluation, Policy and Planning, UNICEF 3 UN Plaza New York, NY 10017 Fax. 212-824-6490	www.childinfo.org	Table 1.4 (Indicators for Monitoring Progress at End-Decade) is included in Appendix 8 of this report. Indicator definitions lack precision but list is up-to-date and comprehensive
Indicators for IMCI at First-Leval Facilities and Households, Department of Child and Adolescent Health and Development, WHO, Geneva, 1999	Department of Child and Adolescent Health and Development, WHO 20 Avenue Appia, Ch-1211 Geneva 27, Switzerland	N/A on www	"Topical List of Priority Indicators for IMCI at Household Level" and "Proposed List of supplemental Measures for IMCI at Household Level" included in Appendix 6 of this report.
National AIDS Programmes; A Guide to Monitoring and Evaluation, UNAIDS, Sept. 2000, UNAIDS/00.17E	Information Manager, UNAIDS 20 avenue Appia, CH-1211 Geneva 27, Switzerland	www.unaids.org/publications/documents/epidemiology/index Email: unaids@unaids.org	

The KPC was designed to be a data collection tool used primarily for project management. Survey implementation was "intended to foster local participation in identifying health priorities and in monitoring community health status" (KPC, 1999). About two years ago, PVOs expressed a desire to expand the scope of the original KPC to include program areas beyond the areas represented by the 17 core indicators, namely, anthropometry, malaria, delivery and postpartum care, and HIV/STIs. The question had also been debated among the PVOs about the extent to which KPC survey data could be used for evaluation. That is, if the KPC was needed as an evaluation tool, should this be to assess change over time, or evaluate the impact of specific interventions? To address these issues, in April, 1999, the CORE Monitoring and Evaluation (M&E) Working Group embarked upon a major revision of the KPC tool with the assistance of the Child Survival Technical Support Project (CSTS). CSTS also commissioned a working paper to discuss the implications of various sampling options for use with the KPC.

Briefly, the approach used to develop the revised KPC was as follows[13]:

- KPCs submitted with PVO DIPs were reviewed, as well as PVO's assessments of the KPC data; many PVOs had adaptated the original KPC to suit their particular project needs;
- Survey instruments similar to the KPC were reviewed, such as Food for the Hungry International's KPC (used in Kenya), the HKI Food Frequency Questionnaire (FFQ), UNICEF's Multi-Indicator Cluster Survey (MICS), and the MEASURE/DHS+ survey questionnaire;
- Comments were submitted to a CORE/CSTS discussion site on the KPC and input from other senior experts was solicited;
- Input from KPC Training of Survey Trainers (TOST) trainers was obtained.

The result, in December, 1999, was a revised *KPC2000* in modular format with 14 freestanding modules, each with interviewer instructions, suggested qualitative and quantitative research questions, and a basic tabulation plan. The intent was that PVOs should "pick and choose" from those modules, or develop a questionnaire that used specific questions within each module that were relevant to their program activities and objectives.

Several PVOs field tested the KPC2000 this year, and MCHN experts reviewed technical aspects of the tool, including the tabulation plan. The main observations and critiques of the KPC2000 are listed in the box on the following page[14]. Based on this feedback, the KPC Task Force identified several refinements and modifications of the tool, which were incorporated into a new version of the KPC, called the *KPC2000 PLUS* (or *KPC2000+*), recently released by CSTS.

[13] This information is derived from personal experience: At the time these steps were taken, author was Director of the CSTS team.

[14] Field test feedback is in part excerpted from the Notes of the KPC2000 Task Force Meeting, July 10, 2000, as well as from phone consultations with PVO staff and consultants.

MAIN OBSERVATIONS AND CRITIQUES OF KPC2000

1. *The KPC2000 questionnaire format should be simplified, to make it look less like a DHS questionnaire, user-friendlier, and more conducive to data entry and analysis.* The finding that the KPC2000 looks too much like a DHS survey questionnaire is not surprising. Although the KPC survey revision is a PVO driven effort and PVOs have provided the bulk of the input, CSTS staff at Macro International, home of the DHS survey, led the revision process. Significant input from DHS MCHN staff, Johns Hopkins University, USAID Cooperating Agencies (CA), and other DHS partners was obtained during revision of KPC. Many of the same HN experts involved in revising the *DHS core questionnaire* thus also contributed to revisions of the KPC questionnaire. In fact, the questions in the "new" KPC probably represent some of the best technical refinements of questions in each topic area that have evolved among USAID's experts and partners in the past few years. This said, some of the complexity of the DHS was also carried over to the KPC and, realistically, will need to be simplified.

2. *A software program is needed that specifically corresponds to the coding used in the survey, such as EPI Info.* Even when that software template is developed, a number of PVOs need help in using EPI Info.

3. *Many PVOs would like to see maternal knowledge put back into the questionnaire.* The "old" KPC had been criticized for having too many knowledge indicator questions, and not enough practice/behavior questions. Some feel that the KPC2000 leans too heavily in the other direction.

4. *The food frequency questions and tabulation plan are problematic.* Many PVOs did not understand the need for both the 7-day recall and the 24 hour recall. The 7-day recall presented a problem in some settings with mothers not being able to remember over that period of time. In one setting it was felt, retrospectively, that data on food consumption patterns would have been better collected through a qualitative assessment, or a dietary assessment survey separate from the baseline. As a result, a number of Title II and CS PVOs have chosen to design their own food recall questions or drastically alter the current KPC set up. The typical modification is to choose either a 7 day or a 24 hour period, and ask only whether or not particular food item had been consumed, rather than attempting to ascertain the number of times a food had been consumed. Title II PVOs have used a wide variety of approaches to the food recall. The tabulation plan presented with the KPC2000 seems confusing to many, in particular the food diversity index.

5. *Additional cross-referencing of questions between modules is needed*. That is, to avoid redundancy, questions that may be appropriate in one module may be referred to in another module, rather than repeated. (For example, a question on hand-washing may be appropriate in both the Water and Sanitation *and* the Diarrhea modules.) This pattern is not entirely consistent in the current version of the KPC2000.

6. *A number of PVOs are aware of statistical constraints posed by the cluster sampling approach, and have opted to use alternate sampling techniques, such as LQAS (see below).*

7. *In general, survey length has been between 40 and 70 questions*. Some PVOs have used parallel sampling, i.e. separate, shorter questionnaires for specific demographic groups.

8. *The Growth Monitoring/Maternal and Child Anthropometry Module – which is key for Title II PVOs – poses technical challenges for some PVOs, and requires specific improvements in format and tabulation plan.* Some of the issues raised include: the unreliability (inaccuracy) of height measurement and the need for quality control; the difficulty of carrying anthropometric equipment and/or added expense of transporting it; the paucity of good anthropometric measurement manuals available; the need for more frequent assessments; the need for growth monitoring of children up to 5 years. It has been recommended[1] that the module include stunting (H/A) as an indicator of program impact, clarify the difference between the use of stunting and underweight, and include changes in means and standard deviations for stunting and underweight in order to more fully understand changes in nutritional status among the intervened population(s).

In the KPC2000+, all modules from the KPC2000 have been updated, the HIV/STI Module has been expanded, and a new "Sick Child" module has been added. The list of modules in the KPC2000+ is contained in Appendix 5. The newest feature of the KPC2000+ is a core questionnaire, or the *Rapid CATCH (Core Assessment Tool on Child Health)*, which contains 26 questions from the KPC2000+ modules. The CATCH relates to indicators specifically of beneficiary-level results of CS projects and provides a snapshot of the target population in terms of child health. Data from the CATCH can be used:

- to inform the implementing PVO and its local partners (MOH, USAID mission, NGOs, etc.)
- to provide a basis for comparability between projects within a given country, as well as across countries for advocacy at both the national and international levels

The CATCH has an accompanying Tabulation Plan, built around a core set of priority child household level indicators[15] and provides instructions on calculating these indicators. For CS PVOs, the CORE M&E Working Group is strongly suggesting that all projects report on these core indicators[16].

In addition to the KPC2000+ modules an updated version of the KPC report guidelines, the *Guide to Writing the KPC Survey Report*, is also available for download from CSTS (web site address below). The original guidelines, developed by JHU/CSSP, have been revised to emphasize the importance of:

- reporting details of the KPC process, including the engagement of local partners/stakeholders
- performing and reporting simple cross tabulations of the data to highlight potential differentials between subgroups including
- confidence limits with survey indicators to give an idea of the margin of error associated with each estimate

To obtain a copy of the KPC2000+, or for further information, contact:

CSTS Project
Macro International
11785 Beltsville Drive
Calverton, MD 20705
Ph. 301-572-0200
www.childsurvival.com

Jay Edison, KPC Revision Taskforce Chair
ADRA International
12501 Old Columbia Pike
Silver Spring, MD 20904
Ph. 301-680-5128

30-Cluster Sampling Approach

The 30-cluster sampling approach has been used by PVOs for many years with the KPC survey. Originally, the 30-cluster method was developed by WHO and UNICEF in their Expanded Programme on Immunization (EPI) for assessing immunization coverage rapidly and cost effectively at a national level. For EPI, observations were taken from 30 systematically selected clusters, each comprised of 7

[15] The IMCI household indicator list (Appendix 6) has been developed by the WHO Interagency Working Group on IMCI Monitoring and Evaluation.
[16] CSTS, *Bookmarks!*, October 25, 2000

households, yielding a total sample size of 210 children 12-23 months. From this sample, an estimate was derived of population immunization coverage within ±10 percentage points. For KPC surveys PVOs increased the minimum sample size to 300 (30 clusters of 10 children each), both because KPC surveys included children 0 to 24 months, and because the clustering of households introduced a degree of imprecision into estimates – a phenomenon called the design effect (DEf). That is, households within a cluster may influence one another's behaviors, beliefs, or knowledge, or they may share similar limitations with respect to access to resources (e.g. food, water, health care), making data collected within that cluster potentially *more atypical* relative to the program area in which it lies. Sample sizes typically need to be increased by a factor of up to 2 (or more, depending on the indicator) to overcome the imprecision introduced by the DEf (Sarriot et al., 1999).

Selecting a sample using the 30-cluster design is fairly simple. Initially, a complete list of clusters, which are small naturally occurring groups such as villages, schools, or factories, is drawn up. These clusters are scattered over the entire program area of intervention. At least 30 clusters are randomly chosen from the list, and then a minimum of 10 households within those clusters is chosen. If a cluster only has 10 households, then all are included. If – as in most PVO program situations – there are more than 10 households in the cluster, 10 are randomly selected, using standard random selection procedures. The latter approach to sample selection is called *multistage cluster sampling.*

Limitations of the 30-Cluster Sampling Approach

The 30-cluster method is the most well known sampling method used by PVOs with the KPC. Some of its advantages are that it is rapid and fairly inexpensive. Nevertheless, there are three major limitations of KPC surveys that have not always been fully appreciated[17]. These include:

1) stratified KPC data may be imprecise;
2) KPC surveys can be used for evaluation but only if certain essential methodological requirements are met, and
3) KPC data do not provide information useful for management at the local program unit level.

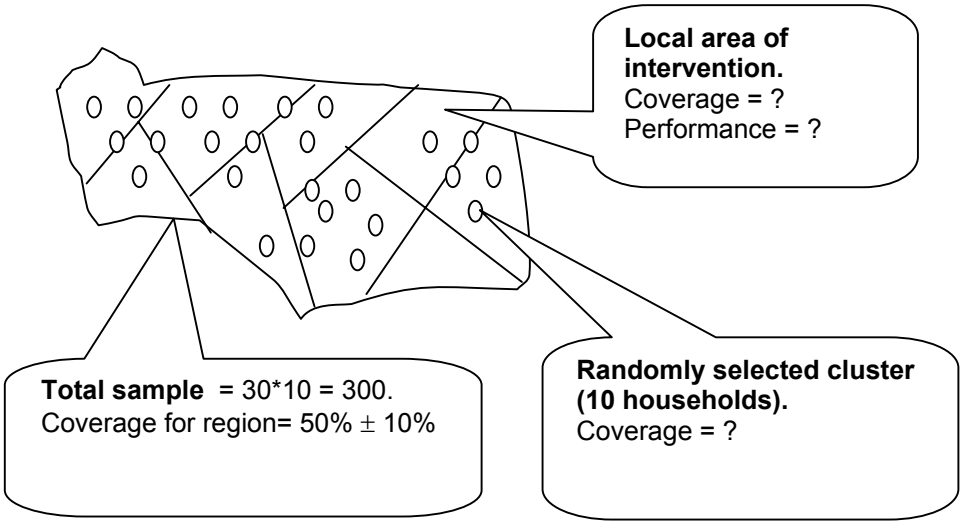
Data from KPC surveys are, more often than not, reported stratified according to specific age, sex, and other socio-demographic groupings. Stratification of cluster data is thought to violate certain statistical principles, although it is not entirely clear what those principles are (NGO Networks, 1999). In terms of evaluation, PVOs often conduct repeat KPC surveys at project mid-point and/or end-point, and assess changes in indicator values to determine whether the intervention has had any impact. While the KPC survey can be used for evaluation purposes, the types of evaluation questions that can be answered are limited. As Sarriot et. al (1999) explain in their paper entitled *Methodology and Sampling Issues for KPC Surveys*, "It is important to fully understand that, while the baseline data allow the manager to set reasonable objectives for the program, the 30-cluster design does not establish the most appropriate baseline for comparison point with data from the final KPC." Project managers can, for example, assess whether progress has been made towards objectives, and whether change has occurred in estimates between baseline and later points in time. It is more difficult to assess whether changes observed are *due* to the intervention, because a control group with similar characteristics as the intervention group but that did not receive the intervention has not been studied. Without a control group, it is not possible to know whether the change(s) observed were due to the intervention or to some other factors (for example, "positive" changes might have occurred because of a water and sanitation improvement program, a good agricultural year, opening of more health clinics, etc.) Nevertheless, as Sarriot et al. (1999) make clear, "What managers and evaluators can attempt to support…, is the plausibility of change in the population, based on the spectrum of data available for their consideration." To be able to make any before and after comparisons, the evaluation goals must be thought through *before the baseline survey is designed* and appropriate sample sizes for the baseline and subsequent surveys determined. The *Methodology and*

[17] Awareness of these issues has been raised considerably through the recent work of the CORE Monitoring and Evaluation Working Group and the Child Survival Technical Support (CSTS) Group.

Sampling Issues for KPC Surveys manuscript, which accompanies the KPC2000 Manual, provides an easy-to-read, comprehensive discussion of the limitations of using KPC data for evaluation purposes, and offers several options for dealing with the statistical issues. All program managers considering using the KPC survey and 30-cluster sampling approach are advised to read this paper before designing their survey.

The third limitation – the inability to derive local program level data for management – is probably the most difficult one to overcome solely by making statistical adjustments. This constraint is depicted the Figure below. Although aggregated data from 30 clusters provide adequate estimates of indicators for a large program area (e.g. a district), individual clusters may not be representative of the program units (e.g. villages, blocks of villages, facility or market catchment areas, etc.) from which they are drawn. Also, the size of the cluster itself is small (usually 10 households). An additional limitation imposed by the clustering of households and potential bias due to the sharing of beliefs and practices within clusters – referred to as the DEf in the sample size discussion above – contributes to the inability of cluster data to yield useful management information. All of these factors mean that one cannot make estimates of indicators of coverage, practices, or use of services for local program units based on the cluster(s) within those units because the clusters' indicator values cannot be generalized. Put another way, management decisions about quality of services or success of an intervention within local program units cannot be made.

Figure. Cluster Sampling design – illustration of coverage in program area



4.2. LQAS

Lot Quality Assurance Sampling (LQAS) is a sampling approach that can be used in baseline and follow-on surveys as an alternative to the 30-cluster sampling method. In the development arena, LQAS has been used for over a decade primarily for assessment purposes, assessing programs in the areas of immunization, family planning, growth monitoring, diarrheal disease, and other health and CS interventions. PVOs are becoming increasingly comfortable with using LQAS for assessment surveys, and more recently LQAS has been used for routine monitoring and baseline surveys. LQAS has a number of unique advantages, including small sample size requirements, rapid training, high feasibility for local program staff to conduct, ability to analyze data quickly, and relatively low cost, if decentralized program unit staff collect data. LQAS was originally designed in the 1920's in the commercial sector, as a quality-control procedure for the production of industrial goods. This procedure took random small samples (lots) of goods, and tested them to determine whether a certain pre-determined proportion of goods in the lot met a standard, or *threshold*, of quality. If the number of defective goods was more than the predetermined number of defects allowed, the lot was rejected. The number of defective goods allowed (i.e. the *decision rule*) was determined statistically, and the sample size was selected so that managers would not falsely reject too many good lots, nor fail to reject too many bad lots. In community based development projects, villages, health facility catchment areas, or other local program units can be considered lots, and LQAS can be used to determine whether a certain expected proportion of a target population has received an acceptable level of service or intervention. LQAS can also be used to estimate coverage rates – or indicator levels – for an overall program area.

LQAS is a method that can be used for monitoring project quality and making management decisions at low levels of program operation. Weaknesses in the quality of work of field workers, or in specific areas of intervention, can be detected and improved. Areas identified as high performers can be used to draw trainers to provide technical assistance to areas not performing well (NGO Networks, 1999). LQAS can also be used to provide an accurate measure of coverage at a higher aggregate level, which is often of prime interest to country government officials, donors, or PVO headquarters. LQAS is not subject to many of the statistical constraints of the 30-cluster method and, where LQAS tools are developed for baseline assessment, these can be used for ongoing project monitoring. Performing assessment surveys at project mid-point and end-point is likely to be inexpensive, because local staff are already trained and know how to collect and interpret the data.

The first step in using LQAS is to divide the study population into useful lots such as villages, catchment areas, or supervision areas of primary health care workers or other trained field workers. Typically, supervision areas might consist of 20 or 25 villages. After defining the lots, for each indicator an *upper and lower thresholds* are set with the intention of classifying "good lots" and "bad lots", or areas of acceptable levels of coverage (or behavior or other performance measure) versus unacceptably low levels of coverage. Generally, it is recommended that there be 30 percentage points between the upper and lower thresholds. In the case of a GMP intervention, for example, a program manager might want to know if health workers are providing mothers with counseling once the child's weight is taken. A target (upper threshold) of 70% might be set, meaning that at least 70% of all child weights should be accompanied by appropriate counseling. Any village where fewer than 40% of weights were accompanied by counseling (lower threshold) would be considered unacceptably low and in need of special assistance. Once upper and lower thresholds are determined, LQAS tables are used to define the sample size and the lowest number of "failures" or "defects" (called the *decision rule*) that correspond to the chosen thresholds. In most PVO MCHN applications a sample size of 19 seems to work best (Valadez, 1998). Each field worker or supervisor constructs a sampling frame consisting of each village name and population size. Using a standard procedure, 19 sampling points (usually households or mothers of children) are then selected in each supervision area. This might mean only 1 or 2 households per village are included. Questionnaires are administered to each of the 19 "sampling points" (e.g. mothers, husbands) and, depending upon the number of responses classified as correct or not, the lot is classified as acceptable or unacceptable. The lots can be aggregated to calculate regional (or full program area) estimates of coverage.

Unlike the KPC and other survey instruments, which generally use one questionnaire for all categories of intervention target group, current applications of LQAS use one short questionnaire for each category of person. That is, one questionnaire is used for mothers of infants; one for mothers of children 12-23 months; one for non-pregnant women 15-49 years of age; and one for sexually active men 15-49 years of age (Valadez, August, 2000). Two or more target groups might be in the same household (in statistical parlance called *parallel sampling*) rendering this approach time efficient. Recent LQAS applications have taken the KPC questionnaire, and divided up the questions according to the target group they are associated with, in order to construct the brief questionnaires (Valadez, personal communication).

LQAS has been known mainly as a survey tool in development settings. However, PVO interest in and use of LQAS for routine monitoring and evaluation has grown, particularly through the recent efforts of USAID's NGO Networks for Health Project. "NGO Networks" has tested LQAS in PVO/NGO programs in Latin America, Africa and Asia. During the last 12 months alone 30 PVO baseline studies have used LQAS (the results of which will soon be published) (Valadez, personal communication). Using LQAS for baseline poses the obvious question of how to choose target thresholds when there are no baseline estimates of coverage available. A small adjustment solves this problem, which is to *calculate the average coverage for an indicator in the entire program area and find the decision rule for the average. The decision rule tells one whether an individual lot or supervision area is at or above the average, or is below the average* (Valadez, September, 2000). A notable advantage of using LQAS for baseline is that it can be used as a monitoring system afterwards.

Summary of LQAS

In brief, LQAS provides an interesting and viable alternative to the 30-cluster approach for conducting baseline surveys and follow-up assessments. It is a proven tool for assessment surveys and routine monitoring, and has more recently been used for baseline studies. A number of features make the technique attractive, among them its ability to provide information for management at the local program unit level, and to provide estimates of indicator values (coverage, etc.) for an entire program area. On the other hand, like the KPC, LQAS is *not* a good tool for providing estimates of coverage or other performance measures at the local program level. In terms of cost, LQAS may be very cost effective, if data are collected by local field workers. If a special evaluation team is hired centrally to conduct an LQAS survey, the survey can be more expensive than the traditional KPC survey.

LQAS Resources and References

Appendix 7 contains a list of LQAS references, although this list is not exhaustive and other reading material may be found. The NGO Networks Project is an excellent resource for further information regarding using LQAS for PVO community based projects. Currently, NGO Networks is preparing a Training Manual on LQAS (due out this year) which includes user friendly information on defining lots, setting thresholds, choosing the sample size, interpreting the decision rules and errors and analyzing, presenting and using data. A study on the cost effectiveness of LQAS in Nepal is also in production (Valadez, personal communication). NGO Networks has expressed an interest in working with Title II PVOs to coordinate a training exercise.

For more information about LQAS applicability to PVO projects, contact:

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Washington, D.C. 20006
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www.ngonetworks.org

4.3. Anthropometric Survey Tools[18]

Title II PVOs implementing MCHN projects are required to report on stunting or underweight. Therefore it is important that PVOs have access to resources to conduct anthropometric surveys. A number of guides for conducting anthropometric surveys are available and are discussed below.

1. *Anthropometric Indicators Measurement Guide.* Bruce Cogill. Food Security and Nutrition Monitoring Project and Academy for Educational Development, FANTA Project (in preparation).

This guide belongs to a series called the *Title II Generic Indicator Guides* produced by the FANTA Project. These guides are intended to provide the technical basis for the indicators and the recommended method for collecting, analyzing and reporting on the generic indicators developed in consultation with PVOs. The purpose of the *Anthropometric Indicators Measurement Guide* is to help PVOs collect, analyze, interpret and report on the anthropometric impact indicators and the annual monitoring indicators for tracking the progress of children in GMP programs. The guide draws extensively from the internet based Anthropometric Resource Center, which is an internet training tool developed by Bill Bender and Sandy Remancus. The address for this web site is: http://www.odc.com/anthro/ (see below).

The guide contains 8 sections, followed by 8 appendices. The first two sections introduce the guide and provide an overview of the anthropometric and annual monitoring indicators. Sections 3 and 4 focus on analyzing anthropometric data by comparison to reference standards and using EpiInfo and EPINUT software, particularly the latter. The next three sections provide detailed information on conducting anthropometric surveys, obtaining equipment, taking measurements, and training/standardizing measurement techniques. The appendices cover several additional technical topics.

This guide is comprehensive and appropriate for a technical audience. It may be too complex for field staff in some situations, but is an excellent resource for PVO managers.

For further information or to order this guide, contact:

Academy for Educational Development, FANTA Project
1825 Connecticut Avenue, NW
Washington, DC 20009-5721
Telephone 202-884-8000
Fax 202-884-8432
E-mail fanta@aed.org
Internet http://www.fantaproject.org

2. *How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys.* Shorr I. United Nations, Department of Technical Co-operation for Development and Statistical Office. 1986.

This widely used guide is considered to be the authoritative source for guidance on taking weight and height measurements and mid-upper-arm circumference (MUAC) on children. The manual is structured for trainers as an instruction guide or for supervisors as a field manual. It can be used as a quick reference or as a resource document. Those with less experience with taking weight and height measurements may find the details particularly useful.

[18] In addition to direct review of the of the survey tools in this section, the section borrows from Chapter 6 of Wagman, J. and Winch, P. "Implementing and Evaluating Nutrition Interventions for Managers of PVO Child Survival Projects, A Guide to Manuals, Guidebooks, and Reports", Child Survival Technical Support Project, Macro International, Calverton, MD, April 2000.

The manual is organized in five sections, including annexes. A summary section of anthropometric measurement procedures appears both in Section II and as a separate removable section inside the cover. Step-by-step procedures for minimizing measurement error and methods to improve quality control by reducing errors due to reading and recording are included. The annexes include information about sources and types of measuring equipment suitable for field survey work, guidelines for the construction of a portable board.

To order this manual send US$25.00, plus $5.00 for shipping to:

United Nations Publications
2 UN Plaza, Room 0853
New York, NY 10017, USA
Toll free tel: 1-800-253-9646 (in the USA only)
Tel: 212-963-8302
Fax: 212-963 3489
E-mail: publications@un.org
website: http://www.un.org/publications

3. *Growth Monitoring and Promotion in Young Children: Guidelines for the Selection of Methods and Training Techniques.* Jelliffe DB, Jelliffe P. Oxford University Press, 1990

This guide outlines methods of monitoring growth and weight gain. The techniques described will be of use to health and nutrition workers in developing countries where the cost of scales, illiteracy and cultural norms make weight-plotting especially difficult. It is noted in the preface that this document "is not intended as a universal training manual or guide to one guaranteed method of growth monitoring of worldwide and easy application." Instead, it is meant to assist managers in making choices about growth monitoring methods in varying situations with different economic constraints.

This guide has 10 chapters organized in three sections. Section one provides background information on monitoring and health promotion and tools for growth monitoring. A discussion is included on the varying demographic, social, economic and environment circumstances that need to be considered when developing growth monitoring systems. Methods of assessment and alternative growth monitoring systems are also discussed.

The second section focuses on growth monitoring training and outlines two main questions that need to be answered in each country or setting: The first question is "what system of growth monitoring is going to be used?" and the second question is "What training program is needed?" Issues of training design, development of a curriculum, lesson plans, teaching methods and learning packages are thoroughly discussed.

Section three focuses on the evaluation of the growth monitoring system and the training program. Among the book's appendices is a point system for comparative evaluation of weighing scales. Many illustrations are provided to clarify the material presented in the text.

This is a highly recommended guide for PVO managers.

To order this guide, reference ISBN 019505623X and send $19.95 plus shipping costs to:

Oxford University Press Distribution Services
Saxon Way West, Corby
Northamptonshire NN18 9ES, UK
Telephone +44 1536 741068
E-mail: book.orders@oup.co.uk
Internet: http://www.oup-usa.org/

4. *Anthropometry Resource Center* http://www.odc.com/anthro/

The Anthropometry Resource Center, developed by Bill Bender and Sandy Remancus is an easily accessible resource for educational and professional use on child and adult anthropometry. Materials are in the public domain and can be accessed in four ways:

- They may be accessed as needed through the internet via: http://www.odc.com/anthro/. This is appropriate for students and professionals with good network access.
- They may be transferred to a stand-alone or laptop computer to be used as a reference book or tutorial. This is suggested for rural developing country situations with little or no internet access. Materials in this resource have been segmented into compressed files for downloading and easy transfer onto diskettes for further distribution.
- Source materials may be modified or translated for specialized or localized needs, and distributed for access via on-line or off-line computers.
- Documents may be printed for further copying and distribution where computers are not available.

4.4. MICAH Guide

The *MICAH Guide: A Practical Handbook for Micronutrient and Health Programmes World Vision Canada*, 1997, is published by the Micronutrients and Health (MICAH) team of World Vision Canada. The MICAH Guide is based on UNICEF's MICS Manual, from which several chapters have been included with modifications to make them appropriate for micronutrient surveys. The guide is intended for use by program planners/implementers and for educational purposes.

The original MICAH guide has been reformatted into two sections. "Part I: Indicators to Monitor Impact of Nutrition Programs" is a guide to identifying impact and outcome indicators of micronutrient and health status of women and children and is referenced in Table 3. "Part II: Design and Implementation of Nutrition Surveys" provides step by step guidelines for designing and implementing a nutrition survey, with particular emphasis on knowledge, attitudes and practices (KAP) concerning vitamin A, iron and iodine. In addition to the KAP micronutrient modules, the MICAH instrument includes modules for clinical and biochemical assessments of vitamin A, an agriculture and food module, a dietary assessment module, and a village survey module. The guide includes chapters addressing sample selection, preparing for data collection, training, conducting the field work, and supervising the survey.

The MICAH instrument is modular, so managers can choose individual sections depending on the type of intervention in their site. In addition, each module indicates the intended programmatic use and intended respondents, making it user friendly. Part I of the guide contains an appendix reprinted from *How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys* (reviewed above). This annex contains instructions and procedures for measuring height, weight and MUAC.

The MICAH Guide (Parts I and II) provide an all-in-one resource for indicator development and selection, survey design and implementation, and anthropometric measurement. All but three (%eligibe children in GMP, %communities with functioning health organization, and %children in GMP gaining weight) of the FFP Title II Generic Indicators can be obtained using this instrument. It is a highly recommended resource for PVO managers.

To obtain a copy of the MICAH Guide contact:

Nutrition Team
World Vision Canada
6630 Turner Valley Road
Mississauga, ON
LN 2S4 Canada
Tel. 905-821-3033 (x3232)
Email: kristen_hamilton@worldvision.ca

4.5. HKI Food Frequency Questionnaire (FFQ)

Helen Keller International (HKI) produces a two-part series on assessment of vitamin A deficiency (VAD). The first part, published in 1992, is called *Conducting a Qualitative Assessment of Vitamin A Deficiency: A Field Guide for Program Managers. Helen Keller International, Vitamin A Technical Assistance Program.* The second part is called *How to Use the HKI Food Frequency Method to Assess Community Risk of Vitamin A Deficiency, 2nd Edition . (In preparation).* It is recommended that the *Field Guide* be used before using the HKI Food Frequency Method.

The HKI FFQ guide and manual were developed by HKI for use by PVO managers involved in the prevention and control of VAD, government and PVO personnel responsible for identifying appropriate intervention strategies for VAD control, and technical staff or consultants responsible for baseline and evaluation survey activities. The authors recommend that users of this manual be familiar with general principles of survey design and have experience in collecting and reporting health data.

The second part of the series (i.e. the manual) is currently under revision and will soon be available. It is designed for staff of community-based MCHN and agricultural development programs. The manual is not designed for users who have had not prior experience conducting community-based surveys, since a technically specific 12 step process is followed. The method is intended to be used in areas where other health indicators or evidence suggest that vitamin A deficiency may be a public health problem.

Although this manual is not appropriate for general Title II MCHN baseline surveys, it is an excellent resource for PVOs conducting community-based vitamin A interventions. The author is not aware of any better tool for the collection of vitamin-A rich food consumption data.

To order these documents contact:

Conducting a Qualitative Assessment of Vitamin A Deficiency: A Field Guide for Program Managers. Helen Keller International, Vitamin A Technical Assistance Program (1992) Price $10.00 ISBN 0-915173-22-0

How to Use the HKI Food Frequency Method to Assess Community Risk of Vitamin A Deficiency (First edition, 1993) Price: $10.00 ISBN 0-915173-30-1

Helen Keller International
90 West Street, 2nd Floor
New York, NY 10006
Tel: 212-766-5266
Fax: 212-791-7590
Internet: http://www.hki.org/
Internet Order Form: http://www.hki.org/orderform.html

4.6. DHS, MICS

Demographic and Health Survey (DHS)

The USAID sponsored Demographic and Health Survey (DHS) and the UNICEF Multiple Indicator Cluster Survey (MICS) are two of the best known household level surveys intended for use at the national level. While they are usually not practical survey instruments for Title II PVO baseline surveys[19], they can provide valuable secondary sources of information. Because of the breadth of questions and topical areas covered in these instruments, PVOs may also wish to use them for ideas on how to formulate questions.

The focus of the DHS questionnaire is the collection of information in the areas of reproductive health and infant and child well being. DHS data are collected using household and individual questionnaires administered to women 15-49 years of age. A multi-stage cluster sampling approach is used, and the data in most countries are representative at the national and provincial (i.e. departmental) levels, but not below. For this reason, PVOs working in an entire district cannot use DHS estimates for baseline purposes, but they can use the information as a reference for proximate comparisons.

None of the Title II generic indicators are reported in DHS survey reports. However, PVOs can request DHS data from Macro International (see contact information below) and, using the data set with any standard statistical package, calculate all of the Title II impact indicators.

Multiple Indicator Cluster Survey (MICS)

The MICS instrument was developed by UNICEF in response to the 1990 World Summit for Children (WSC), at which 158 governments signed a Declaration and Plan of Action for Children and committed themselves to monitoring progress toward the goals and objectives set for the year 2000. The MICS was designed to be a household survey tool that countries could use to fill data gaps in such areas as immunization coverage, breastfeeding, treatment of childhood illnesses, and micronutrient malnutrition. Following a mid-decade evaluation of MICS in 1997, the instrument was revised, and the initial core set of indicators was modified. The resulting set of indicators used by MICS for assessing end-of-decade progress for the WSC goals is included in Appendix 8 (UNICEF, 2000).

The standard Title II generic indicators are not reported in MICS surveys. At the time of this writing, it was not possible to request MICS data through the internet. PVOs wishing to obtain a copy of a MICS data set should contact the country survey office.

The DHS and MICS instruments have benefited from years of input from some of the international health community's most respected experts. Very recently, many of the same experts have worked on both survey instruments, thus the collaboration and coordination between the two surveys has grown. In particular, there is more comparability between indicators. PVOs can learn from and draw on many aspects of these survey instruments, including question formulation, questionnaire design, indicator definitions, and reporting, especially the presentation of tables and figures.

For further information on the DHS+ survey, contact:
MEASURE/DHS+
Macro International
11785 Beltsville Drive
Calverton, MD 20705
Tel.: 301-572-0200
Fax.: 301-572-0999
Website: www.measureprogram.org

For further information on the MICS survey, contact:
Division of Evaluation, Policy and Planning
UNICEF
3 UN Plaza
New York, NY 10017
Fax: 212-824-6490
Website: www.childinfo.org

[19] The DHS is used by some Missions where the Title II program is focused in a particular priority area (e.g. the Peace Zone in Guatemala).

5. Review of Available Qualitative Assessment Tools and Methods

Cultural norms, individuals' beliefs, values and attitudes, family traditions, and many other measures of community life are important determinants of the nutrition and health status of children. Often these cannot be assessed adequately through quantitative approaches due to their subjective nature. Because these factors need to be taken into account by program managers in the planning of intervention strategies, qualitative research and assessment methods are employed. Title II PVOs frequently use qualitative methods as formative research prior to writing their DAPs. Qualitative methods are also used to complement the quantitative baseline survey, in order to better understand and interpret the baseline results. Qualitative methods are rarely used to collect performance indicator data, but they are helpful in the gathering of information that can help explain trends and/or unexpected findings. Qualitative information is also valuable for the design of locally appropriate and acceptable behavior change messages. This section briefly reviews some of qualitative assessment techniques commonly used by Title II programs.

In addition to the methods discussed below, the reader is referred to:

Winch, P. et. al., *Qualitative Research for Improved Program Design: A Guide to Manuals for Qualitative and Participatory Research on Child Health, Nutrition and Reproductive Health*, SARA Project, Health and Human Resources Analysis for Africa, Office of Sustainable Development, Bureau for Africa, USAID, in conjunction with Department of International Health, Johns Hopkins University, School of Hygiene and Public Health, 2000. Available from the SARA Project, email: sara@aed.org.

5.1. Rapid Appraisal Procedures

Rapid Appraisal Procedures (RAP) apply anthropological methods for rapid assessments of nutrition, health and health care seeking behaviors at the household and community levels. RAP is similar to Rapid Rural Appraisal (RRA) and Participatory Research for Action (PRA), both from the field of rural development. RAP was pioneered in the early 1980's by researchers who developed interview guides and methodological aids for research on infant feeding patterns. Generally, RAP methods permit detailed recording of the socio-cultural context in which health and nutrition behavior occurs, in order to better understand and interpret the behavior. The basic methods include: 1) informal interviews, i.e. somewhat open ended questions asked by a researcher who follows a general outline, but may incorporate additional topics as the interview progresses; 2) informal conversations with individuals or small community groups; 3) observation of events and behaviors; 4) participant observation, in which the researcher participates in and observes the socio-cultural context of a household or community; and 5) focus groups, i.e. informal interviews with small groups of people, usually led by a facilitator who has a general guide. Focus groups often have a recorder, who is primarily an observer and has the responsibility of taking notes during the discussion.

One of most well known guides to RAP is the original *Rapid Assessment Procedures for Nutrition and Primary Health Care: Anthropological Approaches to Improving Programme Effectiveness*, by Susan Scrimshaw and Elena Hurtado (1987). Known as "The RAP Manual" this is a key resource for PVOs. The guide is non-technical, field and user friendly and contains many diagrams of methods used. The manual describes basic anthropological methods (with special attention to focus group methods), training and supervision of field workers, data analysis, and report writing. There is also an annex containing over 30 one-page data collection guides for use with the community, household, and primary health care providers.

The RAP Manual can be obtained through two sources:

Source #1
UCLA Latin American Center
University of California, Los Angeles
405 Hilgard Avenue, 10343 Bunche Hall
Los Angeles, CA 90095-1447
Telephone: 310-825-4571
Fax: 310-206-6859
E-mail: latinamctr@isop.ucla.edu
Internet: http://www.isop.ucla.edu/lac/reference.htm

English ed.: 1987, 80 pp., ill., bibl. ISBN 0-87903-111-5, LC 87-3193, $10.95 paper Spanish ed.: 1988, 100 pp., ill., bibl. ISBN 0-87903-113-1, LC 88-17276, $10.95 paper French ed.: 1990, 74 pp., ill., bibl. ISBN 0-87903-114-X, LC 90-21571, $10.95 paper

Source #2
Full text version can be downloaded FREE OF CHARGE from the web site of the United Nations University Bookstore: http://www.unu.edu/unupress/food/foodnutrition.html

Further information about RAP, RRA, and PRA can be obtained from the IDS (Institute of Development Studies, http://www.ids.ac.uk/ids/) and the ODI (Overseas Development Institute, http://www.oneworld.org/odi/), both of which have done much work on these techniques.

5.2. Participatory Evaluation

Participatory evaluation is a qualitative methodology that implies that program implementers are actively involved in all steps of the evaluation process. The approach emphasizes ongoing "organizational learning" in which program implementers learn from their own program experiences and improve their ability to analyze and use information. As author Judy Aubel states in her preface to the popular *Participatory Program Evaluation Manual: Involving program Stakeholders in the Evaluation Process,* "The methodology is … influenced by the recent developments in Rapid Rural Appraisal (RRA) and Participatory Research for Action (PRA) both from the field of rural development, and by Rapid Appraisal Procedures (RAP) from the health and nutrition field. These methodological developments are all attempts to develop approaches to data collection that are less time consuming than conventional research methods and which foster more horizontal, more informal relationships between evaluators, project implementers and community members" (Aubel, 1999).

A number of CS and Title II PVOs have used the participatory evaluation methodology for their mid-term evaluations. The manual, which was originally written originally for Catholic Relief Services, is intended as a tool to be used by PVO staff and their NGO and government partners in evaluating development projects. It is based on a decade of experience using the methodology in evaluations of development programs in numerous countries in Africa and South Asia.

Participatory Program Evaluation Manual: Involving program Stakeholders in the Evaluation Process has been translated into French and Spanish and is available (free) for downloading from the CSTS web site (www.childsurvival.com).

The manual can also be ordered by contacting CSTS:

Child Survival Technical Support Project
Macro International
11785 Beltsville Drive
Calverton, MD 20705
Tel.: 301-572-0200
Fax.: 301-572-0999

5.3. Positive Deviant Inquiry

Positive deviance describes children who live in poor surroundings but grow adequately and are well nourished. The positive deviance approach in HN development programs - such as the Hearth Nutrition Program - seeks to identify and optimize resources within a community to help the community solve its own problems. In the Hearth model[20], the identification of successful feeding, caring and health-seeking practices of families with well nourished children is accomplished using a tool called the Positive Deviant Inquiry (PDI). The PDI uses a combination of home based interviews and observations of families' nutritional and health practices. Successful ("deviant") behaviors identified through the PDI are used to develop behavior change messages that are communicated to the community through posters and other appropriate local techniques. Behavior change education is also conducted through growth monitoring and nutrition education and rehabilitation sessions (NERS). NERS are usually scheduled once a month or once every 2 months, and then run for a consecutive number of days in a local kitchen. Most Hearth Programs run NERS for 2 to 3 weeks[21]. Following the NERS continued rehabilitation of the child by the caretaker at home is also critical, and this step is often monitored by a village health volunteer.

The PDI is most widely known in association with the Hearth Model. However, it can be used independently as a tool in programs with a nutrition education component.

Save the Children has developed an excellent field guide for PVOs, entitled *Designing a Community-Based Nutrition Program using the Hearth Model and the Positive Deviance Approach – A Field Guide,* by Monique Sternin, Jerry Sternin, and David Marsh (1998). This is a highly recommended resource for PVOs.

To obtain a copy of the field guide, contact:

Save the Children
Health, Population and Nutrition Unit, International Programs
54 Wilton Road
Westport, CT 06880
Contact person: Carmen Weder, Program Development Manager
Toll free telephone: 800-243-5075 (in the USA only)
Telephone: 203-221-4000
E-mail: cweder@savechildren.org (Carmen Weder)

[20] The Hearth Model has been used in PVO projects in Haiti, Viet Nam, Bangladesh, Nepal, Mozambique, Tanzania, Cambodia, Egypt and elsewhere.

[21] During the NERS, mothers of malnourished children are taught how to prepare and feed meals using ingredients that are nutritious, locally available, affordable, and rich particularly in vitamin A and other micronutrients. The menu of meals is based on PDI findings about foods used by PD families. However, because participating children in the NERS are malnourished, total calorie and protein intake must exceed the daily normal requirement. Thus each child's portion should be from 600-800 claories and contain 20-30gms of protein. In most Hearth Programs participating families contribute the foods or ingredients to the NERS meals.

5.4. TIPS

Trials of Improved Practices (TIPS) for Evaluating Feeding Recommendations is a guide for conducting qualitative research primarily on recommended child feeding practices. The purpose of TIPS is to test feeding recommendations in infants and children 0-5 years before they are adopted in health education programs. Improved practices must be accepted in communities before they are adopted, and TIPS is one way of attempting to ensure that educational messages promoting nutrition behavior change will be accepted.

The tool is designed for program managers and trainers for IMCI and/or nutrition intervention programs. Its objective is to develop recommendations (in the form of behavior change messages) to improve child feeding practices based on trial periods during which potential messages are tested in the community and are either accepted or rejected by the community. The technique has also been used to promote improved maternal nutrition during pregnancy[22].

The TIPS methodology has been used in several countries, mainly in programs adapting the IMCI "Food Box" or feeding recommendations. TIPS is a specialized tool intended to be used in programs with a focus on infant and child feeding. It can be applied prior to baseline, or shortly after but, generally, should be used during the planning and development of the MCHN nutrition education intervention. TIPS can be repeated over time to track changes in practices, perceptions, motivations and constraints.

TIPS is not a rapid approach, and PVO program managers need to allow ample time for its implementation. PVOs are advised to consult with organizations that have tried the method to get realistic estimates of the time and effort required. In the near future, the LINKAGES Project hopes to be able to modify some aspects of the methodology, which may shorten its implementation time.

To read more about this methodology, visit the MEASURE/Evaluation website at www.cpc.unc.edu/measure or contact:

The Basics Project
1600 Wilson Blvd., Suite 300
Arlington, VA 22209
Tel.: 703-312-6800
Fax: 703-312-6900

6. Recommendations

6.1. Recommendations with Regard to Baseline Approaches

- For new programs, in locations where there is little information available about the socio-economic and HN conditions of the target population, PVOs should conduct rapid situation analyses or rapid appraisal studies prior to the submission of their DAPs. Current information about the health, socioeconomy and general environmental characteristics of the intervention area will enhance the quality of the DAP and design of the baseline study, once the project is funded. In some cases, this recommendation would apply also to programs that are ongoing but seek to expand into new regions. Prior to conducting the rapid appraisal, PVO managers should make a clear plan of how the findings from the study will be used.

- PVOs should employ qualitative research methods to complement their KPC baseline studies in order to obtain information *that is deemed by the PVO to be necessary or desirable for program planning and management* , but that does not lend itself easily to quantification. That is, information about the

[22] The author learned of this approach during a visit to joint LINKAGES-CARE project in India.

target population's values, beliefs, customs, and motivations, that is generally subjective in nature, should be gathered using qualitative methods. This recommendation applies in particular to programs seeking to gather in-depth information about meal, feeding, and food-related beliefs and behaviors[23]. Recommended qualitative methods include RAP, PRA, RRA, PDI, and TIPS.

- Diarrhea, acute respiratory illness (ARI), and malaria are strongly affected by season. To obtain meaningful, useful estimates of prevalence rates, coverage, and care seeking and treatment practices for these diseases, baseline (and follow up) surveys should, *ideally*, be conducted during the season when these diseases are highly prevalent. For example, diarrhea prevalence, ORS coverage, and ORS use rates are only meaningful if the data are collected during a high diarrhea season, i.e. during and immediately after a rainy season. Collecting the data during low diarrhea periods makes little sense, since the estimates will fluctuate widely from those that occur during peak seasons, and intervention strategies designed around such inaccurate rates could, at best, be inefficient, and at worst be completely off-course.

Malaria is similar to diarrhea in that rates are generally higher during and immediately after hot, wet seasons. On the other hand, ARI prevalence tends to be higher during cool, dry months. Clearly, there could be a dilemma about when to conduct the baseline survey if a PVO wishes to obtain estimates on all three of these diseases. The following steps are recommended if such a situation is anticipated:

1) First, PVOs should gather local/regional data about the diseases. The important information includes prevalence rates, variation in rates by season, annual fluctuations in rates[24], differences between population sub-groups, and nature of any major disease programs. The association of high diarrhea and malaria rates with rainy, hot months, and high ARI rates with cool, dry months, is *generally true across countries*, but is not cut-and-dry and absolutely true in all locations. PVOs must inform themselves of local rates and patterns of the diseases. This information is not always easy to come by, but good places to look are: the district medical office; the central MOH statistics office; the country's WHO office; offices of local NGOs or PVOs working in health.
2) Second, if good data about local disease rates (and coverage and usage) are available, PVO managers may decide there is no need to collect new data. (Title II programs are technically not required to collect baseline data, only to provide it.)
3) Third, if local data are not available and there is a disease-season conflict, managers must decide which baseline estimates need to be more accurate, or in other words, which intervention areas have the highest significance in their program. Criteria used to prioritize the interventions might include: burden of the disease(s) on the target population; relevance to planned interventions; resource inputs; outcomes and results expected; comparative advantage of PVO relative to other health programs and organizations, etc. Additional criteria can and should be identified by the PVO.
4) The baseline survey should be conducted in the months when the most significant diseases - relative to the planned interventions and availability of secondary data - are at their highest levels.

- Whenever possible, follow-up evaluation surveys should be conducted at the same time of year as baseline surveys, in order to control for changes in indicators that may be due to seasonal effects. When this is not possible, PVOs should highlight indicators that may be affected by season, and discuss how the estimate might be affected by a difference in season (or, in epidemiological terms, by not controlling for season).

[23] One exception to this statement would be the use of the HKI FFQ for the collection of vitamin A rich food consumption patterns.

[24] Annual fluctuations in childhood diseases occur in most countries, irrespective of seasonal variation. For example, high peak diarrhea prevalence rates will vary from one year to the next, due to many factors, such as total rainfall, other climatic factors, epidemics of illness, interventions by NGO, government or donor programs that come and go, and so on. All of the factors that contribute to annual disease fluctuations are not known. It is helpful to know what are the annual disease patterns (e.g. for the past 5 years) so that the influence of annual fluctuations can be taken into consideration when programs are being evaluated.

- If questions concerning vitamin A supplements are included in the baseline or evaluation survey, field workers should carry samples of vitamin A ampules to show the respondent (mother) in order to avoid the mother's confusion with other supplements or medications she or her child may be taking. In countries where vitamin A supplements are used, samples can be obtained from an MOH office, a local UNICEF office, or a local (district) health center or clinic.

- PVOs should develop concerted efforts to improve the quality of reporting of baseline research. Some of the major report writing issues identified include: length, organization, description of methods (and variations or modifications of standard survey tools), presentation of results, interpretations of results, and discussion of implications for program approaches. FAM (or FANTA) could take a leading role in activities designed for this purpose. Possible activities FAM might consider include:
    - Commissioning development of guidelines for reporting research, which would implicitly infuse some standardization into baseline reporting. If the Title II community decides that guidelines would be useful, an important initial step would be to consult with PVOs to understand what has limited wide adoption of guidelines in the past, and how these limitations might be overcome. In addition, the Title II community would need to come to consensus on whether enforcement of some level of reporting standards was needed, what standards they would be, and how that enforcement would be done. These are some of the key issues to consider for guideline development, although there are others and it is beyond the scope of this report to go into greater depth about all of them.
    - development of a workshop for report writing;
    - development of a report-writing training module that PVOs could use for training in the field; and/or
    - a study of report writing “positive deviance” among Title II PVOs.

The FAM M&E Working Group might wish to incorporate this recommendation into their next work plan in order to identify the most practical course(s) of action.

- PVOs should give increased attention in their baseline reports to the anthropometric survey methods employed and the anthropometric survey experience. This will help to highlight patterns of critical needs and issues pertinent to the collection and reporting of anthropometric data. Key information should include: when, where, and on whom the survey was conducted; how training was conducted (consultants used, manuals and materials used, reliability checking methods, characteristics of test subjects, etc.); anthropometric instrumentation used; field quality control methods employed; problems with equipment, logistics or personnel encountered; cultural issues (if any) that arose (e.g. resistance to measurement); potential limitations of data; lessons learned.

- The Title II HN community should develop strategies for strengthening the capacity of smaller, less experienced PVOs (and/or PVO field staff involved in survey design), to effectively select MCHN performance indicators for baseline and evaluation studies. Particular issues include selecting a manageable number of indicators, developing criteria for indicator selection, deciding what data collection methods are best for performance indicators, and identifying plans for indicator use and reporting. Possible strategies to address this include:
    - production of a "how-to" manual for Title II MCHN development programs which would incorporate step-by-step guidance on performance indicator selection for baseline and evaluation surveys, and consolidate and focus the wide array of existing information on this topic;
    - regional training seminars;
    - development of a FAM internet based threaded discussion on this topic;
    - identification of windows of opportunity to collaborate with CORE on this topic;
    - coordination of brown bag discussions for PVOs by FAM;

- announcement to Title II PVOs by FAM and FANTA of seminars on this topic offered by USAID and its partners.

6.2. Recommendations with Regard to Use of Tools and Resources

- PVOs planning to use the 30-cluster sampling method for KPC surveys should determine in advance if repeat KPC surveys will be used for evaluation purposes, and/or if KPC data will be reported disaggregated. In most instances, at least one of the conditions will be true, and baseline survey sample sizes should be adjusted appropriately. Reference to the KPC resources mentioned in this report (obtainable from the CSTS or FAM web site) and consultation with key personnel within CORE[25] or CSTS[26] will provide the guidance needed to make these adjustments.

- Any PVO planning to use the 30-cluster method KPC should familiarize itself with the statistical limitations of the KPC. The easiest way to do this is to read *Methodology and Sampling Issues for KPC Surveys,* which accompanies the KPC2000 and is referenced in this report. More in-depth information can be obtained from the CORE M&E Working Group and CSTS.

- LQAS is A potentially valuable tool for Title II PVOs, as A monitoring method to complement their baseline KPCs, and as an alternative to the KPC 30-cluster baseline approach. Title II PVOs interested in using LQAS should:
  1) read the basic LQAS resource material highlighted in this report;
  2) search for "good situations" where they could field test LQAS with minimal cost and low risk. "Good situations " would include (for example):
     - ✓ countries where other PVOs/NGOs have used LQAS[27] and resources or expertise was available;
     - ✓ countries where the PVO has conducted a KPC baseline survey but is seeking to develop an ongoing monitoring system (which would give the PVO its nascent experience in using LQAS for routine monitoring rather than for a baseline survey);
     - ✓ PVOs with direct connections with NGO Networks, since much of the recent PVO appropriate LQAS tool development tool has been accomplished by this project.

- FAM should explore collaborative activities with NGO Networks for training and promotion of wider understanding and use of LQAS in Title II projects. Initial meetings should be scheduled, goals for collaboration established, and first year activities identified.

- Discussions with members of the Title II HN community revealed that there is a need for training in anthropometric survey methods and quality control. FAM and/or FANTA, in partnership with the PVOs, should identify strategies for training for anthropometric survey techniques. Possible strategies include:
  - US based brown bag seminars organized by FAM or the D.C. offices of PVOs
  - regional training courses led by anthropometric experts or highly experienced PVO staff ;
  - FAM web site space devoted to anthropometry and/or internet-based discussion group;
  - short (i.e. one-day) regional and/or US based refresher seminars.

[25] At the time of this writing, some of the key members of CORE working on KPC issues include Jay Edison (ADRA), David Marsh (SCF), Vijay Rao (MCDI).
[26] At the time of this writing the key "KPC" experts at CSTS were: Eric Sarriot, Sandra Bertoli, Donna Espeut.
[27] Title II PVOs are encouraged to contact NGO Networks, FANTA or CSTS for this information if needed.

- FAM should continue to strengthen its collaborative relationships with CORE and CSTS with regard to Title II PVO's use of the KPC2000+. A first practical step would be a request by the FAM M&E Working Group to the KPC Task Force Chair[28] to have one of its members participate in the KPC Task Force.

- PVOs should use internet "bookmarks" to bookmark the resources reviewed in this report. PVO headquarter and regional M&E specialists should try to obtain a hard copy of the most highly recommended manuals and field guides. As needed, PVOs should request assistance from the FAM FSRC in obtaining these materials.

[28] At the time of this writing, Jay Edison of ADRA was the KPC Task Force Chair.

References

Aubel, J. *Participatory Program Evaluation Manual: Involving program Stakeholders in the Evaluation Process (2nd edition),* Child Survival Technical Support Project, Macro International, Calverton, MD, 1999.

Bonnard, P. *Review of Agriculture Project Baseline Surveying Methods of Title II Funded PVOs, Part I: Socio-economic Methods*, Food Aid Management, Washington, D.C., September, 30, 1998.

Cogill, B. *Anthropometric Indicators Measurement Guide. Bruce Cogill. Food Security and Nutrition Monitoring Project and Academy for Educational Development,* FANta Project, Academy for Educational Development, Washington, D.C. (In preparation).

CSTS, *Notes from KPC2000 Task Force Meeting, 10 July, 2000*, Macro International, Calverton, MD.

Demographic and Health Surveys Woman's Questionnaire, MEASURE/DHS+ Program, Macro International Inc., Calverton, MD, November, 1999.

Helen Keller International, *Conducting a Qualitative Assessment of Vitamin A Deficiency: A Field Guide for Program Managers. Helen Keller International, Vitamin A Technical Assistance Program,* Helen Keller International, New York, NY, 1992.

Helen Keller International, *How to Use the HKI Food Frequency Method to Assess Community Risk of Vitamin A Deficiency* (First edition), Helen Keller International, New York, NY, 1993.

Infant and Child Feeding Indicators Measurement Guide, IMPACT Project, December, 1997.

Indicators for IMCI at First-Leval Facilities and Households, Department of Child and Adolescent Health and Development, WHO, Geneva, 1999.

Knowledge, Practices and Coverage Survey (KPC2000), Revised by the Child Survival Technical Support Project and the CORE Monitoring and Evaluation Working Group, December, 1999.

Lung'aho, M. et al. *Tool Kit for Monitoring and Evaluating Breastfeeding Practices and Programs*, Wellstart International's Expanded Promotion of breastfeeding Program, Wellstart International, San Diego, CA, 1996.

MICAH Guide: A Practical Handbook for Micronutrient and Health Programmes, *Part I: Indicators to Monitor Impact of Nutrition Programs,* Micronutrients and Health Team, World Vision Canada, Mississauga, ON, 1997.

MICAH Guide: A Practical Handbook for Micronutrient and Health Programmes, *Part II: Design and Implementation of Nutrition Surveys,* Micronutrients and Health Team, World Vision Canada, Mississauga, ON, 1997.

MEASURE/Evaluation, *Report of a Technical Meeting on the Use of Lot Quality Assurance Sampling (LQAS) in Polio Eradication Programs*, MEASURE/Evaluation Program, Population Center, University of North Carolina, Chapel Hill, NC, July 1998.

MEASURE/DHS+, *Commentary for Model "A" Questionnaire*, Macro International, Calverton, MD, January 2000.

NGO Networks for Health Detailed Monitoring and Evaluation Plan, NGO Networks for Health Project, PLAN International, Washington, D.C., May, 1999.

Rutstein, S., ed. *Guidelines for the MEASURE DHS+ Main Survey Report*, Macro International Inc., Calverton, MD, February, 2000.

Scrimshaw, S. and Hurtado, E. *Rapid Assessment Procedures for Nutrition and Primary Health Care: Anthropological Approaches to Improving Programme Effectiveness*, United Nations University, Tokyo, Japan, 1987.

Sternin, M., Sternin, J., and Marsh, D. *Designing a Community-Based Nutrition Program using the Hearth Model and the Positive Deviance Approach - A Field Guide*, Save the Children, December, 1998.

UNICEF, *Monitoring Progress Toward the Goals of the World Summit for Children: End-Decade Multiple Indicator Survey Manual*, Division of Evaluation, Policy, and Planning, UNICEF, New York, NY, February 2000.

USAID, *Performance Monitoring and Evaluation*, Power Point Presentation made at the 1998 Performance Monitoring and Evaluation Workshop, Office of Private and Voluntary Cooperation, Bureau for Humanitarian Response, USAID.

USAID, *PVO Child Survival Grants Program Technical Reference Materials*, Child Survival Grants Program, Office of Private and Voluntary Cooperation, Bureau for Humanitarian Response, USAID, December 1999.

USAID. U.S. International Food Assistance Report 1999, USAID, Washington, D.C., January 2000.

USAID, Office of Sustainable Development, *Health and Family Planning Indicators: A Tool for Results Frameworks*, Health and Human Resources Analysis for Africa, Office of Sustainable Development, Bureau for Africa, USAID, 1999

Valadez, J., Leburg, C., Seims, L., Vargas, W. *Advancing Community Based Monitoring of Health Programs,* Power Point Presentation, 4 August, 2000, Plan International, Washington, DC.

Valadez, J. LQAS Sampling for Baseline Surveys, Power Point Presentation at the CORE Annual Meeting, Millwood, VA, September 12, 2000

Valadez, J., Devkota, B.R. *Using LQAS to Assess a Decentralized Sub-District Level Integrated Health Program in two districts of the Terai, Nepal*, NGO Networks for Health Project, draft August 26, 1999.

Valadez, J. *A Training Manual for Using LQAS To Manage Decentralized Health Programs: A Users Handbook*, Plan International, August 10, 1998.

Wagman, J. and Winch, P. “Implementing and Evaluating Nutrition Interventions for Managers of PVO Child Survival Projects, A Guide to Manuals, Guidebooks, and Reports”, Child Survival Technical Support Project, Macro International, Calverton, MD, April 2000.

Appendices

APPENDIX 1: Scope of Work for Review of Health /Nutrition Baseline Surveying and Evaluation Methods

Background / Objective:
The majority of FAM member CSs have placed a high priority on access to quality baseline surveying tools for Title II projects. The general objective of the FAM Monitoring and Evaluation working group is to oversee the development or review of 1) a set of methods and tools to monitor and evaluate Title II programs, and 2) instructions in how to use those methods and tools in various settings. The members prioritized the sectors of greatest monitoring and evaluation needs, in descending order, as: 1) agriculture, 2) health /nutrition, 3) small and micro-enterprise development, 4) natural resource management, and 5) social welfare/safety net. A review of socio-economic agriculture baseline surveying methods and tools has been completed, and a review of bio-physical agriculture baseline surveying methods and tools is currently being finalized.

The next prioritized sector is health/nutrition, and the FAM Monitoring and Evaluation working group will hire a consultant to oversee the review of 1) what methods and tools are available to conduct baseline surveys and evaluations in Title II health/nutrition programs, and 2) how those methods and tools can be used in various settings.

Specific Tasks:
1. Conduct a literature review and develop an annotated bibliography of current techniques or methods/tools that are available for use in health / nutrition baseline surveys or evaluations, selecting those which could be easily adapted to Title II health /nutrition programs. Both quantitative and qualitative methods should be included in the review.

Provide a critical review of the selected methods / tools, including:
- An analysis of what the method or tool is and how it works
- A report on the level of rigor and quality of data obtained from the use of the method or tool
- A report on the circumstances / situations under which the use of the method or tool would be optimal
- A report on the limitations associated with the use of the method or tool
- A list and analysis of indicators that can correctly be evaluated using the tool, focusing on the FFP list of generic indicators for health/nutrition and other specified indicators commonly used in Title II health/nutrition programs (to be provided)

2. Survey member CSs to determine what methods and tools they use in their health / nutrition baseline surveys or evaluations, identifying both the strengths and limitations associated with the use of those methods or tools. In addition, determine what needs or gaps the CSs identify in finding/ selecting the correct method or tool to evaluate their health/ nutrition programs.

Process:
A monitoring and evaluation consultant will be contracted by FAM for a 60 day period and given the responsibility for completing the above analysis. The M&E consultant will report to the FAM Coordinator and to the Chair of the Monitoring and Evaluation working group. A detailed work plan will be drafted by the consultant for approval by the FAM Coordinator and the members of the FAM Monitoring and Evaluation working group. Regarding the review of current PVO methods and tools being used in health / nutrition surveying, the respective CSs will be expected to dedicate a certain amount of staff time and finances to collaborate in the review.

APPENDIX 2: Useful Websites for Monitoring and Evaluation Resources

www.fantaproject.org	FANta
www.dec.org/usaid_eval/	USAID Development Experience Clearinghouse
www.childsurvival.com	CSTS
www.ngonetworks.com	NGO Networks for Health
www.cpc.unc.edu/measure	Measure Evaluation
www.usaid.gov/hum_response/ffp/	USAID BHR/FFP
www.usaid.gov/hum_response/pvc/	USAID BHR/PVC
www.usaid.gov/pubs/sourcebook/usgov/	USAID Results Oriented Sourcebook
www.measuredhs.com	MEASURE/DHS+
www.odc.com/anthro/	Bill Bender's Anthropometry Site
www.foodaid.org	FAM

APPENDIX 3: Correspondence to FAM M&E Working Group, PVO Field Staff, PVO Consultants and US Staff

Letter to Members of FAM Monitoring and Evaluation Working Group

Dear M&E Group Members:

For those of you whom I have not met or spoken to yet, my name is Pat Haggerty and I have been hired by the FAM M&E Working Group to conduct a review of current techniques or methods/tools available for use in HN baseline surveys and evaluations, selecting those which could be easily adapted to Title II HN programs. As part of this, I am looking at CS Title II projects which have significant HN components to see what methods have been used by PVOs in their baseline and follow up surveys.

I attended the M&E WG meeting in March (when I met several of you), and was unable to come to the last WG meeting but sent a brief update on my progress. One step I mentioned I would do around this time is to send a draft outline of the paper, to solicit feedback and thoughts from you. I have attached a draft outline, and would appreciate any input you care to give at this time.

The outline is fairly general, because it is an outline, although for most of the sections I do have specific information I anticipate including. For the second section reviewing the function of M&E, I know many of you have seen more than enough of the generic M&E overviews before, but it seems to me to be a logical/necessary entree into discussing baseline surveys. I promise to make this section as concise and brief as possible, and to concentrate the paper on the discussion of actual instruments available and relevant approaches to the baseline surveys and evaluations Title II CSs have used. Similarly, I think that the section on "Functions of the Baseline Survey" is necessary for a good flow to the paper but that it should be relatively brief, since Patricia Bonnard has treated this subject extremely well in her review of Title II Agriculture Baseline Survey Methods. Please let me know if you disagree or have other points of view on this, as I am quite open to all comments at this stage of the game!

Where I could really also use your input now, if you can spare a few minutes from your busy schedules, is to give me a bit more of your thoughts about the instruments you are aware of, that you think should be included in the review. I have listed several, but the list is not exhaustive. I have listed the ones that seem to me to be most practical and applicable to Title II HN. I have not gone through all the Title II HN project documents I have yet, so I may be missing some obvious ones. Also, please be aware that I will be using many examples of CS-developed techniques and approaches throughout the paper.

Beyond identifying and discussing instruments/tools/techniques, another area where your input would be very helpful for the discussion, is what are the specific issues/challenges you face in conducting baseline and evaluation surveys. What are the biggest constraints in conducting the surveys? To what extent do Missions influence the design of your baseline/evaluation surveys? What approaches have worked best for you? What baseline/evaluation approaches have you tried that were not successful and why? What are the most significant weaknesses/gaps in the survey methods you have used? What parts of the M&E Results Framework are the most challenging? What target groups and levels of evaluation do you feel you are not adequately addressing (if any) in your baseline, monitoring and evaluation activities, and why? What resources (pertinent to baseline/evaluation surveys) would you like to have but are not available? What are the best lessons you have learned about M&E through your Title II HN projects?

These are only some of the questions that I believe are relevant to this paper. If you would like send an email "reply to all" (i.e. to me and to the other members of the M&E WG), we could have a shared discussion by email. Or, if you prefer to reply just to me, that is perfectly okay too! If you don't wish your comments to be shared with others then please tell me and I will not forward them to others... some comments don't need to be the subject of general discussion. In either case, that will help me get 'inside your head' a bit more, so I can better understand your priorities, needs, and experiences on this subject.

Once I get through the (very high pile) of project documents, I would like to speak to you or the person in your organization who has the best first hand knowledge of the baseline/evaluation issues related to your HN project. (Please pass this along to your colleagues who may be better suited to answer, as needed.) Some of you do not have major HN projects, so I won't need to contact you. I will be out of the country from June 19th to about July 10th and after that hope to be able to have some telephone discussions with you. In the meantime, please feel free to laden me with emails with any of your thoughts about the above. (That includes your thoughts on the outline! Be brutally honest!)

Many thanks for your cooperation.

Sincerely,

Patricia Haggerty, Ph.D.
Nutrition/Monitoring and Evaluation Consultant
Food Aid Management

Questions Asked to Title II Field Reps

1. What kind of baseline survey instrument did you use in [COUNTRY]? If it was not a "packaged" survey tool (e.g. like the KPC) do you have a copy of the survey you used in English that you send me via email?

2. Who helped you with the baseline? In other words, were you able to tap [PVO] resources for training, etc., or did you have to hire a consultant? If the latter, do you have a contact number or address for the consultant and would you mind if I contacted that consultant directly?

3. Do you have a baseline report (in English only) you could send me by email? If not, I will try to find one here.

4. Have you conducted a follow up (mid term) evaluation? If so, do you have a copy of the evaluation instrument and the evaluation report?

5. What were the special challenges you faced in conducting the baseline survey (and evaluation)?

6. What were (are) the most significant weaknesses/gaps in the survey methods you used?

7. What are the most important HN indicators for [PVO/COUNTRY]? Among these, are there some that are more difficult to assess than others? Why?

8. Do you have experience with baseline/evaluation methods other than the [PVO/COUNTRY]? If so, what is your opinion on those methods?

9. To what extent does the USAID Mission influence the design of your baseline/evaluation surveys?

10. Do you think that Title II PVOs should embrace a minimum "core" set of HN indicators which would be required of the PVOs across the board? Why?

11. What were the best lessons learned from the [PVO/COUNTRY] baseline/evaluation which could be helpful to others?

Discussion Questions Used with US-Based PVO (Title II) Staff and Consultants

What is your experince with Title II PVOs?

What specific tools/techniques have you worked with for HN baseline studies? Evaluations? What are your thoughts on these tools? (Some consultants were asked only about KPC and LQAS.)

What are some of the biggest challenges PVOs face in designing baseline survey instruments?

In the results framework, what aspects are the most problematic?

What are the most important baseline indicators for [Title II] PVOs? Should there be a common set of indicators across PVO projects?

In your opinion, what aspects of PVO baseline and follow up evaluations are weakest and what would you recommend?

Have particular PVOs developed their own (unique) instruments?

Do Title II baseline instruments need to be significantly different than CS baseline instruments?

Are PVOs doing an adequate job reporting baseline data and using it? How would you recommend improving these aspects?

APPENDIX 4: Persons Contacted

David Ameyaw, ADRA
Giles Bergeron, FANta
Karen Boyles, Doulos Community *
Tony Brown, CRS
Sandra Bertoli, CSTS
Thoric Cederstrom, SCF
Tom Davis, FHI
Dave Evans, FHI
Jo Gilman, Prisma, Peru*
John Lundine, World Share Guatemala *
Mary Lungaho, CRS
Julie Mobley, FHI
Martha Newsome, WV Mozambique *
Omo Olupona, WV Mozambique *
Alfonso Rosales, CRS
Mandy Rose, Measure/Evaluation
Jim Rugh, CARE
Mara Russell, FAM
Dorothy Scheffel, WV
Trish Schmirler, FAM
Anne Swindale, FANta
Harold Tarver, Africare
Joe Valadez, NGO Networks
Solomon Waco, ADRA

* N/A

APPENDIX 5: List of Modules of the KPC2000+

MODULES OF THE KPC2000+
1A. Household Water and Sanitation
1B. Respondent Background Information
2. Breastfeeding and Infant/Child Nutrition
3. Growth Monitoring and Maternal/Child Anthropometry
4A. Childhood Immunization
4B. Sick Child
4C. Diarrhea
4D. Acute Respiratory Illness
4E. Malaria
5A. Prenatal Care
5B. Delivery and Immediate Newborn Care
5C. Postpartum Period
6. Child Spacing
7. HIV and Other Sexually Transmitted Infections
8. Health Contacts and Sources of Information

APPENDIX 6 : IMCI Household Level Indicators[29]

TOPICAL LIST OF PRIORITY INDICATORS FOR IMCI AT HOUSEHOLD LEVEL

Nutrition

20. Child under 4 months of age is exclusively breastfed
21. Child aged 6-9 months receives breastmilk and complementary feeding
22. Child under 2 years of age is low weight for age

Prevention

23. Child 12-23 months of age is vaccinated against measles before 12 months of age
24. Child sleeps under an insecticide treated net (in malaria risk areas)

Home case management

25. Sick child is offered increased fluids and continued feeding
26. Child with fever receives appropriate antimalarial treatment (in malaria risk areas).

Care seeking

27. Caretaker knows at least two signs for seeking care immediately

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[29] Source: WHO, "Indicators for IMCI at First-Level Facilities and Households", January 2000 draft, WHO/Department of Child and Adolescent Health and Development in collaboration with The Interagency working Group on IMCI Monitoring and Evaluation.

Priority Indicators for IMCI at Household Level

(When specified, age groups include children aged exactly the lower number of months up to the end of the upper number of months. As an example, 12-15 months means children aged exactly 12 months up to one day less than 16 months. When age group are not specified, indicators refer to children up to five years of age)

20. *Child under 4 months of age is exclusively breastfed.* Proportion of infants aged less than 4 months who were exclusively breastfed in the last 24 hours

Numerator: Number of infants aged less than 4 months (less than 120 days) who were exclusively breastfed in the last 24 hours.

Denominator: Number of infants aged less than 4 months (less than 120 days) surveyed.

21. *Child aged 6-9 months receives breastmilk and complementary feeding*. Proportion of infants aged 6-9 months receiving breastmilk and complementary foods

Numerator: Number of infants aged 6-9 months who received breastmilk and complementary foods[30] in the last 24 hours.

Denominator: Number of infants aged 6-9 months surveyed.

22. *Child under 2 years of age who is low weight for age (underweight prevalence)*. Proportion of children who are below -2SD from the median weight for age according to the WHO/NCHS reference population.

Numerator: Number of children under 2 years of age whose weight is below -2SD from the median weight of the WHO/NCHS reference population for their age.

Denominator: Number of children under 2 years of age surveyed.

23. *Child 12-23 months of age is vaccinated against measles before 12 months of age*. Proportion of children aged 12-23 months vaccinated against measles before 12 months of age.

Numerator: Number of children aged 12-23 months vaccinated against measles before 12 months of age

Denominator: Number of children aged 12-23 months surveyed.

24. *Child sleeps under an insecticide treated net (in malaria risk areas)*. Proportion of children who sleep under insecticide treated[31] nets in malaria risk areas

Numerator: Number of children who slept under an insecticide treated[2] net the previous night

Denominator: Number of children surveyed.

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[30] Solid and/or semi-solid foods

[31] Insecticide treated net include immersion in an insecticide solution and/or regular direct spraying

25. *Sick child is offered increased fluids and continued feeding.* Proportion of sick children for whom the caretaker offered increased fluids and continued feeding.

Numerator: Number of children who were reportedly sick in the previous two weeks and for whom the caretaker offered increased fluids and the same amount or more food.

Denominator: Number of children surveyed who were reportedly sick in the previous two weeks.

26. *Child with fever receives appropriate treatment.* Proportion of children with fever who received an appropriate antimalarial treatment (in malaria risk areas).

Numerator: Number of children who were reported to have had fever in the previous two weeks and were treated with a locally recommended antimalarial.

Denominator: Number of children surveyed who were reported to have had fever in the previous two weeks.

27. *Caretaker knows at least two signs for seeking care immediately.* Proportion of caretakers who know at least 2 signs for seeking care immediately.

Numerator: Number of caretakers of children who know at least 2 of the following signs for seeking care immediately[32]: child not able to drink or breastfeed, child becomes sicker despite home care, child develops a fever (in malaria risk areas or if child aged less than 2 months), child has fast breathing, child has difficult breathing, child has blood in the stools, child is drinking poorly.

Denominator: Number of caretakers of children surveyed.

[32] Local terms to be identified

TOPICAL LIST OF PROPOSED SUPPLEMENTAL MEASURES FOR IMCI AT HOUSEHOLD LEVEL

Nutrition

S19. Continued breastfeeding rate of children aged 12-15 months.
S20. Complementary feeding frequency
S21. Stunting prevalence
S22. Wasting prevalence
S23. Mean weight for age z-score
S24. Mean height for age z-score
S25. Mean weight for height z-score

Prevention

S26. DPT vaccine coverage
S27. Polio vaccine coverage
S28. Tuberculosis vaccine coverage
S29. Vitamin A supplementation

Home case management

S30. Ownership of mother's card for children under 2 years

Morbidity

S31. Prevalence of night-blindness
S32. Period prevalence of history of fever
S33. Prevalence of malaria parasitemia
S34. Period prevalence of diarrhoea
S35. Period prevalence of acute respiratory infections needing assessment

Proposed List of Supplemental Measures for IMCI at Household Level

(When specified, age groups include children aged exactly the lower number of months up to the end of the upper number of months. As an example, 12-15 months means children aged exactly 12 months up to one day less than 16 months. When age group are not specified, indicators refer to children up to five years of age)

S19. *Continued breastfeeding rate of children aged 12-15 months.* Proportion of children aged 12-15 months receiving breastmilk

Numerator: Number of children aged 12-15 months who received breastmilk in the last 24 hours.

Denominator: Number of children aged 12-15 months surveyed.

S20. *Complementary feeding frequency*. Proportion of children aged 1-4 years receiving 5 or more feeds a day

Numerator: Number of children aged 12-59 months who received 5 or more feeds in the last 24 hours.

Denominator: Number of children aged 12-59 months surveyed.

S21. *Stunting prevalence.* Proportion of children who are below - 2 SD from the median height for age of the WHO/NCHS reference population

Numerator: Number of children whose height (or length) is below - 2 SD from the median height (or length) of the WHO/NCHS reference population for their age.

Denominator: Number of children measured.

S22. *Wasting prevalence.* Proportion of children who are below - 2 SD from the median weight for height of the WHO/NCHS reference population

Numerator: Number of children whose weight is below - 2 SD from the median weight of the WHO/NCHS reference population for their height (or length).

Denominator: Number of children weighed and measured.

S23. *Mean weight for age z-score*. Mean z-score of weight for age according to the WHO/NCHS reference population

Definition: Arithmetic mean of weight for age z-score of surveyed children according to WHO/NCHS reference population.

S24. *Mean height for age z-score.* Mean z-score of height for age according to the WHO/NCHS reference population

Definition: Arithmetic mean of height (or length) for age z-scores of surveyed children according to the WHO/NCHS reference population.

S25. *Mean weight for height z-score.* Mean z-score of weight for height according to the WHO/NCHS reference population

Definition: Arithmetic mean of weight for height (or length) z-scores of surveyed children according to the NCHS/WHO reference population.

S26. *DPT vaccine coverage.* Proportion of children aged 12-23 months fully immunized against diphtheria, pertussis and tetanus (DPT) before 12 months of age.

Numerator: Number of children aged 12-23 months who received 3 doses of DPT vaccine before 12 months of age

Denominator: Number of children aged 12-23 months surveyed.

S27. *Polio vaccine coverage.* Proportion of children aged 12-23 months fully immunized with oral polio vaccine (OPV) before 12 months of age.

Numerator: Number of children aged 12-23 months who received 3 or more doses of OPV before 12 months of age

Denominator: Number of children aged 12-23 months surveyed.

S28. *Tuberculosis vaccine coverage.* Proportion of children aged 12-23 months immunized against tuberculosis (BCG vaccine) before 12 months of age.

Numerator: Number of children aged 12-23 months who received a dose of BCG vaccine before 12 months of age

Denominator: Number of children aged 12-23 months surveyed.

S29 *Vitamin A supplementation*. Proportion of children 6-59 months of age who received a high dose (amount to be defined locally) of vitamin A in the last 6 months (in countries where there is a vitamin A supplementation policy[h]**).**

Numerator: Number of children aged 6-59 months who received a recommended dose of vitamin A within the last six months (in countries where there is a vitamin A supplementation policy[h].

Denominator: Number of children aged 6-59 months surveyed.

S30. *Ownership of mother's counseling card for children under 2 years.* Proportion of children aged under 2 years whose caretaker has a mother's counseling card (in settings where caretakers should receive a mother's counseling card).

[h] Some countries may have an upper age limit of less than 59 months

Numerator: Number of children aged under two years whose caretaker produces a mother's counseling card.

Denominator: Number of children aged under two years surveyed.

S31. *Prevalence of night-blindness.* Proportion of children aged 24-59 months who are night-blind (in areas with vitamin A deficiency).

Numerator: Number of children aged 24-59 months who are reported to be night-blind by their caretaker.

Denominator: Number of children aged 24-59 months surveyed.

S32. *Period prevalence of a history of fever.* Proportion of children under five with a report of fever in the two weeks preceding the interview in malaria risk areas.

Numerator: Number of children for whom the caretaker reports one or more episodes of fever in the previous 2-week period.

Denominator: Number of children surveyed.

S33. *Period prevalence of diarrhoea*. Proportion of children who had diarrhoea at any time in the 2-week period prior to the survey.

Numerator: Number of children who had diarrhoea at any time in the 2-week period prior to the survey.

Denominator: Number of children surveyed.

S34. *Period prevalence of acute respiratory infections needing assessment.* Proportion of children reported to have had fast and/or difficult breathing, with or without cough, in the 2-week period prior to the survey.

Numerator: Number of children reported to have had fast and/or difficult breathing, with or without cough, at any time during the 2-week period prior to the survey.

Denominator: Number of children surveyed.

APPENDIX 7: LQAS References[33]

Carnell, M. & Roy, B. Lot quality assurance sampling: a tool used for improving urban immunization management in Bangladesh. In: *Abstracts of the Annual Meeting of the National Council for International Healt*h. Washington DC, USA. 1995.

*Field Guide: For supplementary activities aimed at achieving polio eradicatio*n. 1996 Revision. World Health Organization, Geneva, Global Programme for Vaccines and Immunization, Expanded Programme on Immunization. 1996.

Galvao, L. & Kaye, K. Using lot quality assessment techniques to evaluate quality of data in a community-based health information system. *Tropical Docto*r, 24(4):149-151 (1994).

Lanata, C.F. & Black, R.E. Lot quality assurance sampling techniques in health surveys in developing countries: advantages and current constraints. *World Health Statistics Quarterl*y, 44:133-139 (1991).

Lot Quality Assurance survey to assess immunization coverage, Burkina Faso. *Weekly epidemiological record,*70:261-268 (1995).

LQAS Sampling for Baseline Surveys. NGO Networks for Health Project, Power Point Presentation at the CORE Annual Meeting, Millwood, Virginia, May 2000.

*Monitoring immunization services using the Lot Quality Techniqu*e. World Health Organization, Geneva, Global Programme for Vaccines and Immunization, Vaccine Research and Development. 1996.

Robertson, S.E & Anker, M. et al. The lot quality technique: a global review of applications in the assessment of health services and disease surveillance. *World Health Statistics Quarterl*y, 50:199-209 (1997).

Rosero-Bixby, L. et al. Monitoring a primary health care programme with lot quality assurance sampling: Costa Rica, 1987. *Health Policy and Planning* 5(1):30-39 (1990).

Singh, J. et al. Concurrent evaluation of immunization programme by lot quality assurance sampling. *Journal of Tropical Pediatric*s, 41:215-220 (1995).

Singh, J. et al. Evaluation of immunization coverage by lot quality assurance sampling compared with 30-cluster sampling in a primary health centre in India. *Bulletin of the World Health Organization,* 74(3):269-274 (1996).

Turner, A.G. et al. A not quite as quick but much cleaner alternative to the Expanded Programme on Immunization (EPI) Cluster Survey design. *International Journal of Epidemiolog*y, 25(1):198-203 (1996).

Tonglet, R. et al. Evaluation of immunization coverage at local level. *World Health Foru*m, 14(3):275-281 (1993).

Valadez, J.J. *Assessing child survival programs in developing countries: testing lot quality assurance samplin*g. Boston, USA. Harvard University Press. 1991.

Valadez, J.J. et al. Assessing family planning service-delivery skills in Kenya. *Studies in Family Planning*, 28(2):143-150 (1997).

Valadez, J.J. et al. Using lot quality assurance sampling to assess measurement in growth monitoring in a

[33] Many of these references are taken from the *Report of a Technical Meeting on the Use of Lot Quality Assurance Sampling (LQAS) in Polio Eradication Programs*, MEASURE/Evaluation, July 1998, www.cpc.unc.edu/measure.

developing country's primary health care system. *International journal of Epidemiology* 25(2):381-387 (1996).

Valadez, J., Leburg, C., Seims, L., Vargas, W. Advancing Community Based Monitoring of Health Programs. Power Point Presentation, NGO Networks for Health, August 4, 2000.

Valadez, J. *NGO Networks for Health Detailed Monitoring and Evaluation Plan*, May, 1999.

Valadez, J. *A Training Manual for Using LQAS To Manage Decentralized Health Programs: A Users Handbook*, Plan International, August 10, 1998.

APPENDIX 8: MICS Indicators for Monitoring Progress at End-Decade

The following list includes the indicators for monitoring the WSC goals as well as additional indicators to monitor children's rights, HIV/AIDS, the Integrated Management of Childhood Illness (IMCI) initiative, and malaria. All the indicators on this list are covered in the current MICS except the ones marked with an 'X'. Age ranges indicated with a hyphen include the month or year given as the outer boundary of the range: for example, '6-9 months' includes 6-month-olds and 9-month-olds.

Indicator	Description	Comments
Indicators reflecting World Summit for Children goals		
WSC goal 1. **Between 1990 and the year 2000, reduction of infant and under-five child mortality rate by one third or to 50 and 70 per 1,000 live births respectively, whichever is less**		
Under-five mortality rate	Probability of dying between birth and exactly five years of age, per 1,000 live births	
Infant mortality rate	Probability of dying between birth and exactly one year of age, per 1,000 live births	
WSC goal 2. **Between 1990 and the year 2000, reduction of maternal mortality rate by half**		
Maternal mortality ratio (MMR)	Annual number of deaths of women from pregnancy-related causes, when pregnant or within 42 days of termination of pregnancy, per 100,000 live births	For countries without complete vital registration systems, MMR should be measured only once every 7-10 years: process indicators should be used to measure progress in the short term
WSC goal 3. **Between 1990 and the year 2000, reduction of severe and moderate malnutrition among under-five children by half**		
Underweight prevalence	Proportion of under-fives who fall below minus 2 and below minus 3 standard deviations from median weight-for-age of NCHS/WHO reference population	To be measured not more than once every three years
Stunting prevalence	Proportion of under-fives who fall below minus 2 and below minus 3 standard deviations from median height-for-age of NCHS/WHO reference population	Moderate and severe levels, and severe levels, should be reported separately
Wasting prevalence	Proportion of under-fives who fall below minus 2 and below minus 3 standard deviations from median weight-for-height of NCHS/WHO reference population	
WSC goal 4. **Universal access to safe drinking water**		
Use of safe drinking water	Proportion of population who use any of the following types of water supply for drinking: piped water; public tap; borehole/pump; protected well; protected spring; rainwater	

	Indicator	Description	Comments
WSC goal 5. **Universal access to sanitary means of excreta disposal**			
	Use of sanitary means of excreta disposal	Proportion of population who have, within their dwelling or compound: toilet connected to sewage system; any other flush toilet (private or public); improved pit latrine; traditional pit latrine	
WSC goal 6. **Universal access to basic education, and achievement of primary education by at least 80 per cent of primary school-age children, through formal schooling or non-formal education of comparable learning standard, with emphasis on reducing the current disparities between boys and girls**			
	Children reaching grade 5	Proportion of children entering first grade of primary school who eventually reach grade 5	
X	*Net primary school enrolment ratio*	Proportion of children of primary-school age enrolled in primary school	Not covered in MICS
	Net primary school attendance rate	Proportion of children of primary-school age attending primary school	
	Optional		
	Proportion entering school	Proportion of children of primary-school entry age who enter school at that age	
X	*Learning achievement*	Proportion of children aged 10-12 years reaching a specific level of learning achievement in literacy, numeracy and life skills	
WSC goal 7. **Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990 level, with emphasis on female literacy**			
	Literacy rate	Proportion of population aged 15 years and older who are able, with understanding, to both read and write a short simple statement on their everyday life	To be measured at most once every five years
WSC goal 8. **Provide improved protection of children in especially difficult circumstances and tackle the root causes leading to such situations**			
	Total child disability rate	Proportion of children aged less than 15 years with some reported physical or mental disability	

	Indicator	Description	Comments
WSC goal 9. **Special attention to the health and nutrition of the female child and to pregnant and lactating women**			
	Under-five mortality rate: female/male	Probability of dying between birth and exactly five years of age, per 1,000 live births: disaggregated by gender	
	Underweight prevalence: female/male	Proportion of under-fives who fall below minus 2 standard deviations from median weight-for-age of NCHS/WHO reference population: disaggregated by gender	
	Antenatal care	Proportion of women aged 15-49 attended at least once during pregnancy by skilled health personnel	'Skilled health personnel' includes only doctors, nurses and midwives; does NOT include traditional birth attendants (trained or untrained)
X	*HIV prevalence: female/male*	Proportion of population aged 15-49 who are HIV-positive: disaggregated by gender and age	Not covered in MICS
X	*Iron-deficiency anaemia*	Proportion of women aged 15-49 with haemoglobin levels below 12g/100ml for non-pregnant women, and below 11g/100ml for pregnant women	Not covered in MICS
WSC goal 10. **Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many**			
	Contraceptive prevalence	Proportion of women aged 15-49 who are using (or whose partner is using) a contraceptive method (either modern or traditional)	This indicator should be reported separately for women who are married or in union, and for all women
X	*Fertility rate for women 15 to 19*	Number of live births to women aged 15-19 per 1,000 women aged 15-19	Only for estimation at global and regional level: not for measurement at national level
X	*Total fertility rate*	Average number of live births per woman who has reached the end of her childbearing period	Only for estimation at global and regional level: not for measurement at national level

	Indicator	Description	Comments
WSC goal 11. **Access by all pregnant women to prenatal care, trained attendants during childbirth and referral facilities for high-risk pregnancies and obstetric emergencies**			
	Antenatal care	Proportion of women aged 15-49 attended at least once during pregnancy by skilled health personnel	'Skilled health personnel' includes only doctors, nurses and midwives; does NOT include traditional birth attendants (trained or untrained)
	Childbirth care	Proportion of births attended by skilled health personnel	See definition of 'skilled health personnel' above
X	*Obstetric care*	Number of facilities providing *comprehensive* essential obstetric care per 500,000 population Number of facilities providing *basic* essential obstetric care per 500,000 population	Essential obstetric care is defined in UNICEF/WHO/UNFPA, *Guidelines for Monitoring the Availability and Use of Obstetric Services*
WSC goal 12. **Reduction of the low birthweight rate (less than 2.5 kg) to less than 10 per cent**			
	Birthweight below 2.5 kg	Proportion of live births that weigh below 2,500 grams	
WSC goal 13. **Reduction of iron-deficiency anemia in women by one third of the 1990 levels**			
X	*Iron-deficiency anaemia*	Proportion of women aged 15-49 with haemoglobin levels below 12g/100ml for non-pregnant women, and below 11g/100ml for pregnant women	Not covered in MICS
WSC goal 14. **Virtual elimination of iodine deficiency disorders**			
	Iodized salt consumption	Proportion of households consuming adequately iodized salt	
X	*Low urinary iodine*	Proportion of population (school-age children or general population) with urinary iodine levels below 10mcg/100ml	To be measured at national level only when 90% or more of households are consuming adequately iodized salt
	Optional		
X	*Goitre in schoolchildren*	Proportion of children aged 6-11 years with any size of goitre (palpable and visible combined)	To be measured only when salt iodization or urinary iodine levels are not measured

	Indicator	Description	Comments
WSC goal 15. **Virtual elimination of vitamin A deficiency (VAD) and its consequences, including blindness**			
	Children receiving vitamin A supplements	Proportion of children aged 6-59 months who received a high-dose vitamin A supplement in the last 6 months	
	Mothers receiving vitamin A supplements	Proportion of mothers who received a high-dose vitamin A supplement before infant was 8 weeks old	
X	*Low vitamin A*	Proportion of children aged 6-59 months with serum retinol below 20mcg/100ml	To be measured at national level only when VAD is close to being eliminated
	Optional		
	Children with night blindness	Proportion of children aged 24-59 months with night blindness	To be measured only if a local term for night blindness exists
	Night blindness in pregnant women	Proportion of women who had night blindness during the last pregnancy	To be measured only if a local term for night blindness exists
WSC goal 16. **Empowerment of all women to breastfeed their children exclusively for four to six months and to continue breastfeeding, with complementary food, well into the second year**			
	Exclusive breastfeeding rate	Proportion of infants under 4 months (120 days) who are exclusively breastfed	
	Timely complementary feeding rate	Proportion of infants aged 6-9 months (180-299 days) who are receiving breastmilk and complementary food	
	Continued breastfeeding rate	Proportion of children aged 12-15 months and 20-23 months who are breastfeeding	Reported separately for the two age groups
X	*Number of baby-friendly facilities*	Number of hospitals and maternity facilities designated as baby-friendly according to global BFHI criteria	Not covered in MICS
WSC goal 17. **Growth promotion and its regular monitoring to be institutionalized in all countries by the end of the 1990s**			
	No indicators		
WSC goal 18. **Dissemination of knowledge and supporting services to increase food production to ensure household food security**			
	No indicators		
WSC goal 19. **Global eradication of poliomyelitis by the year 2000**			
X	*Polio cases*	Annual number of cases of polio	Not covered in MICS

	Indicator	Description	Comments
WSC goal 20. **Elimination of neonatal tetanus by 1995**			
X	*Neonatal tetanus cases*	Annual number of cases of neonatal tetanus	Only for estimation at global and regional level: not for measurement at national level
WSC goal 21. **Reduction by 95 per cent in measles deaths and reduction by 90 per cent of measles cases compared to pre-immunization levels by 1995, as a major step to the global eradication of measles in the longer run**			
X	*Under-five deaths from measles*	Annual number of under-five deaths due to measles	Only for estimation at global and regional level: not for measurement at national level
X	*Under-five measles cases*	Annual number of cases of measles in children under five years of age	Only for estimation at global and regional level: not for measurement at national level
WSC goal 22. **Maintenance of a high level of immunization coverage (at least 90 per cent of children under one year of age by the year 2000) against diphtheria, pertussis, tetanus, measles, poliomyelitis, tuberculosis and against tetanus for women of childbearing age**			
	DPT immunization coverage	Proportion of one-year-old children immunized against diphtheria, pertussis and tetanus (DPT)	
	Measles immunization coverage	Proportion of one-year-old children immunized against measles	
	Polio immunization coverage	Proportion of one-year-old children immunized against poliomyelitis	
	TB immunization coverage	Proportion of one-year-old children immunized against tuberculosis	
	Neonatal tetanus protection	Proportion of one-year-old children protected against neonatal tetanus through immunization of their mother	

	Indicator	Description	Comments
WSC goal 23. **Reduction by 50 per cent in the deaths due to diarrhoea in children under the age of five years and 25 per cent reduction in the diarrhoea incidence rate**			
X	*Under-five deaths from diarrhoea*	Annual number of under-five deaths due to diarrhoea	Only for estimation at global and regional level: not for measurement at national level
	Diarrhoea cases	Average annual number of episodes of diarrhoea per child under five years of age	
	ORT use	Proportion of children aged 0-59 months who had diarrhoea in the last two weeks and were treated with oral rehydration salts or an appropriate household solution (ORT)	
	Home management of diarrhoea	Proportion of children aged 0-59 months who had diarrhoea in the last two weeks and received increased fluids and continued feeding during the episode	
WSC goal 24. **Reduction by one third in the deaths due to acute respiratory infections in children under five years**			
X	*Under-five deaths from acute respiratory infections (ARI)*	Annual number of under-five deaths due to acute respiratory infections	Only for estimation at global and regional level: not for measurement at national level
	Care seeking for acute respiratory infections	Proportion of children aged 0-59 months who had ARI in the last two weeks and were taken to an appropriate health provider	
WSC goal 25. **Elimination of guinea worm disease (dracunculiasis) by the year 2000**			
X	*Dracunculiasis cases*	Annual number of cases of dracunculiasis (guinea worm) in the total population	Not covered in MICS
WSC goal 26. **Expansion of early childhood development activities, including appropriate low-cost family- and community-based interventions**			
	Preschool development	Proportion of children aged 36-59 months who are attending some form of organized early childhood education programme	
WSC goal 27. **Increased acquisition by individuals and families of the knowledge, skills and values required for better living, made available through all educational channels, including the mass media, other forms of modern and traditional communication and social action, with effectiveness measured in terms of behavioural change**			
	No indicators		

Indicator	**Description**	**Comments**
Additional indicators for monitoring children's rights		
Birth registration	Proportion of children aged 0-59 months whose births are reported registered	
Children's living arrangements	Proportion of children in households aged 0-14 years not living with a biological parent	Calculated separately for children whose biological mother, father, or both parents are dead
Orphans in households	Proportion of children in households aged 0-14 years who are orphans	Calculated separately for children whose biological mother, father, or both parents are dead
Child labour	Proportion of children in households aged 5-14 years who are currently working (paid or unpaid; inside or outside home)	Calculated separately for paid, unpaid, and domestic work for more than 4 hours per day
Additional indicators for monitoring IMCI initiative and malaria		
Home management of illness	Proportion of children aged 0-59 months who were ill during the last two weeks and received increased fluids and continued feeding	
Care-seeking knowledge	Proportion of caretakers of children aged 0-59 months who know at least two of the following signs for seeking care immediately: child not able to drink or breastfeed, child becomes sicker, child develops a fever, child has fast breathing, child has difficult breathing, child has blood in the stools, child is drinking poorly	
Bednets	Proportion of children aged 0-59 months who slept under an insecticide-impregnated bednet during the previous night	Only in malaria risk areas
Malaria treatment	Proportion of children aged 0-59 months who were ill with fever in the last two weeks and received antimalarial drugs	Only in malaria risk areas

	Indicator	Description	Comments
	Additional indicators for monitoring HIV/AIDS		
	Knowledge of preventing HIV/AIDS	Proportion of women who correctly state the three main ways of avoiding HIV infection	
	Knowledge of misconceptions of HIV/AIDS	Proportion of women who correctly identify three misconceptions about HIV/AIDS	Number reduced in MICS from three to two
	Knowledge of mother-to-child transmission of HIV	Proportion of women who correctly identify means of transmission of HIV from mother to child	
	Attitude to people with HIV/AIDS	Proportion of women expressing a discriminatory attitude towards people with HIV/AIDS	
	Women who know where to be tested for HIV	Proportion of women who know where to get a HIV test	
	Women who have been tested for HIV	Proportion of women who have been tested for HIV	
X	*Attitude toward condom use*	Proportion of women who state that it is acceptable for women in their area to ask a man to use a condom	Indicator deleted from MICS
	Adolescent sexual behaviour	Median age of girls/women at first pregnancy	